SUPPLEMENT.

ming Journal, OMMERC

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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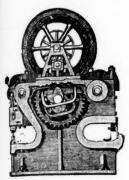
No. 2188.-Vol. XLVII.

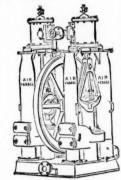
LONDON, SATURDAY, JULY 28, 1877.

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Steam Pumps, Shipbuilders' Tools,

BAR SHEARS. ESTABLISHED 1852.





OLDFIELD ROAD IRON WORKS, SALFORD, MANCHESTER.

ad Practical Success



Represented by Model exhibited by this Firm.

HARVEY AND CO. INGINEERS AND GENERAL MERCHANTS,

HAYLE, CORNWALL, LONDON OFFICE,-186, GRESHAM HOUSE, E.C.

LONDON OFFICE, -TOO, CHRESHAM HOUSE, E.C.

MANUFACTURERS OF

FUMPING and other LAND ENGINES and MARINE STEAM ENGINES
of the largest and most approved kinds in use, SUCAR MACHINERY,
MILLWORK, MINING MACHINERY, AND MACHINERY IN GEBERAL. SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF HUSBAND'S PATENT PNEUMATIC STAMPS.

SECONDHAND MINING MACHINERY FOR SALE.

IN GOOD CONDITION, AT MODERATE PRICES—viz.,

FUNFING ENGINES: WINDING ENGINES: STAMPING ENGINES; STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

LYON & DAVISON,

IRONFOUNDERS, ENGINEERS, &c., Haydon Bridge, near NEWCASTLE-ON-TYNE.

Manufacturers of

LEAD SMELTING, REDUCING, AND REFINING FURNACES, SLAG HEARTHS, AND SMELTERS' WORK GEAR. Plans and Estimates furnished for improved Lead or Copper Mining and Smelting Plant.

ST. LAWRENCE ROPE WORKS,

NEWCASTLE-ON-TYNE. Established 1782. THOMAS AND WILLIAM SMITH,

Manufacturers of all kinds of Iron; Steel, Copper, and Galvanised Wire Ropes; Benpand Manilla Ropes, &c.; Round and Flat Shaft Ropes; Crab Ropes; Guide Ropes; Haufing Ropes; and Galvanised Signal Strand; Suip's Standing Rigging Sue domplete: Patent Hempand Manilla Hawsers, Warps, Cordage, Spun-yarn, &c., &c.; Manilla Yarn for Telegraph Cables, and Flat Hemp Ropes for Driving Bands; Steel Plough Ropes; Fencing Wire and Stand Lightning Conductors, &c.

I, QUEEN STREET. NEWCASTLE ON-TYNE; DOCK YARD, NORTH SHIELDS; 17, PHILPOT LANE, LONDON, E.C.

STORES—North Shields, Blackwall, Newcastle, and Tyne Dock.

STANDARD LUBRICATING OILS COMPANY, LIMITED.

DARK and PALE OILS for MACHINERY, RAILWAY, and MININ PURPOSES, from TWO SHILLINGS per gallon, and upwards.

AGENTS WANTED. 95, CANNON STREET, LONDON, E.C.

ALEX. CHAPLIN AND CO.,

CRANSTONHILL ENGINE WORKS, GLASGOW. PATENTEES AND SOLE MANUFACTURERS OF

CHAPLINS' PATENT STEAM CRANES, HOISTS, LOCOMOTIVES, AND OTHER ENGINES AND BOILERS. LONDON HOUSE:-

Mckendrick, Ball, and Co., UEEN VICTORIA STREET, LONDON, E.C.





PARIS, ORDER OF THE CROWN OF PRUSSIA. FALMOUTH, BRONZE MEDAL, 1867. SILVER MEDAL, 1867

A DIPLOMA-HIGHEST OF ALL AWARDS-given by the Geographical Congress, Paris, 1875-M. Favre, Contractor, having exhibited the McKean Drill alone as the Model Boring Machine for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE MCKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24.90, 27.60, 24.80, 26.10, 28.30, 27.10, 28.40, 28.70 metres. Total advance of south heading during January was 121.30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere (7½ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUN-NEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them a value unapproached by any other system of Boring Machine.

THE MCKEAN ROCK DRILL IS ATTAINING GENERAL USE THROUGHOUT THE WORLD FOR MINING, TUN-NELLING, QUARRYING, AND SUB-MARINE BORING.

The McKEAN ROCK DRILLS are the most powerful-the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts-have no weak parts-act without shock upon any of the operating parts-work with a lower pressure than any other Rock Drill-may be worked at a higher pressure than any other -may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE—do not require a mechanic to work them—are the smallest, shortest, and lightest of all machines-will give the longest feed without change of tool-work with long or short stroke at pleasure of operator.

The SAME Machine may be used for sinking, drifting, or open work. Their working parts are best protected against grit and accidents. The various methods of mounting them are the most efficient.

N.B.-Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

PORTABLE BOILERS, AIR COMPRESSORS, BORING STEEL, IRON, AND FLEXIBLE TUBING.

The McKean Drill may be seen in operation daily in London.

McKEAN AND CO.

ENGINEERS. OFFICES,

BOROUGH ROAD, LONDON, S.E.; and 5, RUE SCRIBE, PARIS.

MANUFACTURED FOR MCKEAN AND CO. BY MESSRS. P. AND W MACLELLAN, "CLUTHA IRONWORKS." GLASGOW.

The Warsop Rock Drill

(Involving an entirely new principle in Mechanical Boring)

Requires only 20 lbs. steam or air-pressure.

Has only two moving parts—thus ensuring freedom from de-rangement, and is absolutely self-feeding.

Is excessively light, and can be carried by one man, who can with the No. 1 size (weighing only 35 lbs.) drill 40 holes \(\frac{1}{4}\) in diameter and \(\frac{1}{2}\) in deep per minute, in the hardest Aberdeen granite for splitting purposes.

WARSOP AND HILL,

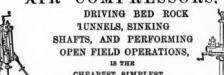
HYDRAULIC AND GENERAL ENGINEERS.

NOTTINGHAM.

STEAM and HYDRAULIC WINDING and PUMPING ENGINES of all kinds.

ROCK DRILL, **DUNN'S**

AIR COMPRESSORS,



CHEAPEST, SIMPLEST,
STRONGEST, & MOST EFFECTIVE
DRILL IN THE WORLD.

OFFICE,-193, GOSWELL ROAD (W. W. DUNN AND CO.),

LONDON, E.C.

THE

PATENT SELF-ACTING MINERAL DRESSING MACHINE COMPANY

(LIMITED).

T. CURRIE GREGORY, C.E., F.G.S.

OFFICES,-GLASGOW: 4, WEST REGENT STREET. LONDON: 52, QUEEN VICTORIA STREET, E.C.

IMPORTANT NOTICE TO MINE PROPRIETORS.

MR. GEORGE GREEN, ENGINEER, ABERYSTWITH. SUPPLIES MACHINES under the above Company's Patenta for DRESSING all METALLIC ORES. Dressing-floors having these Machines pos-1.—THEY ARE CHEAPER THAN ANY OTHER KIND IN FIRST OUTLAY.

2.—ONLY ABOUT ONE-FOURTH OF THE SPACE USUALLY OCCUPIED BY DRESSING-FLOORS IS REQUIRED.

3.—FROM 60 TO 70 PER CENT. OF THE LABOUR IN DRESSING, AND FROM 5 TO 10 PER CENT. OF ORE OTHERWISE LOST, IS SAVED. 4.—THEY ARE THE ONLY MACHINES THAT MAKE THE ORE CLEAN

FOR MARKET AT ONE OPERATION.

They have been supplied to some of the principal mines in the United Kingdom and abroad—viz.,

and abroad—viz.,

The Greenside Mines, Patterdale, Cumberland; London Lead Company's Mines Darlington, Colberry, Nanthead, and Bollyhope; the Stonecroft and Greyside Mines, Hexham, Northumberland; Wanlockhead Mines, Abington, Scotland (the Duke of Buccleuch's); Bewick Partners, Haydon Bridge; the Old Darren, Esgairmwyn, and Ystumtuen Mines, in Cardiganshire; Mr. Beaumont's W. B. Mines, Darlington; also Mr. Sewell, for Argentiferous Copper Mines, Perr; the Bratsberg Copper Mines, Norway, and Mines in Italy, Germany, United States of America, and Australia, from all of whom certificates of the complete efficiency of the system can be had. WASTE HEAPS, consisting of refuse chats and skimpings of a

former washing, containing a mixture of lead, blende, and sulphur DRESSED TO A PROFIT.

Mr. Bainbridge, C.E., of the London Company's Mines, Middletonin-Teesdale, by Darlington, writing on the 20th March, 1876, says—"The yearly
profit on our Nanthead waste heaps amounted last year to £800, tesides the machinery being occupied for some months in dressing ore-stuff from the mines. Of
course, if it had been wholly engaged in dressing wastes our returns would have
been greater; but it is giving us every satisfaction, and bringing the waste heaps
into profitable use, which would otherwise remain dormant."

Mr. T. B. STEWART, Manager of the Duke of Buccleuch's Mines, Wanlockhead, Abington, N.B., writing on 20th March, 1876, says—"I have much pleasure in stating that a full and superior set of your Ore Dressing Machinery has been at work at these mines for fully a month, and each day as the moving parts become smoother, and those in charge understand the working of the machinery better, it gives increasing satisfaction, the ore being dressed more quickly, cheaply, and satisfactorily than by any other method."

Mr. BAINBRIDGE, speaking of machinery supplied Colberry Mines, says—"Your machinery saves fully one-half on old wages, and vastly more ou the wages we have now to pay. Over and above the saving in cost is the saving in ore, which is a .t much short of 10 per cent."

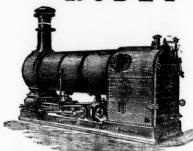
GREENSIDE MINE COMPANY, Patterdale, near Penrith, say-"The separation which they make is complete

Mr. Montague Beale says—"It will separate ore, however close he mechanical mixture, in such a way as no other machines can do."

Mr. C. Dodsworth says—"It is the very best for the purpose, nd will do for any kind of metallic ores—the very thing so long needed for drese-tes-floors."

Drawings, specifications, and estimates will be forwarded on application to GEORGE GREEN, M.E., ABERYSTWITH SOUTH WALES

ENGINEERS, LINCOLN. ROBEY

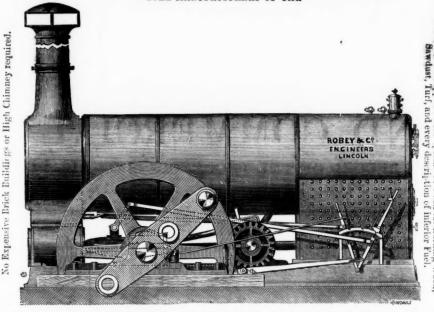


THE PATENT ROBEY FIXED ENGINE AND LOCOMOTIVE BOILER COMBINED,



AL STATIONARY STEAM ENGINE PATENT BOILER COMBINED, 2 to 12 horse power.





PATENT IMPROVED ROBEY MINING ENGINE.

OF ALL SIZES, FROM 4 TO 50-HORSE POWER.

Some of the advantages of this New Engine are as follows:-

SMALL FIRST COST. SAVING OF TIME AND EXPENSE IN ERECTING. EASE, SAFETY, AND ECONOMY IN WORKING. GREAT SAVING IN FUEL.

This New Engine is free from all the objections that can be urged against using the Semi-Portable Engine for permanent work, because it possesses the rigidity and durability of the Horizontal Engine, and at the same time retains the advantages of the Semi-Portable in saving time and expense in fixing.

THE PATENT ROBEY FIXED ENGINE

(Also above illustrated) is admirably adapted for driving Rolling Mills, Saw Mills, Brick Machinery, Pumping Machinery, and all descriptions of Fixed Machinery.

ENGINES UP TO 200 EFFECTIVE HORSE-POWER ALWAYS IN PROGRESS.

Prices and full particulars of all the Machinery here illustrated on upplication to the Sole Manufacturers,

ROBEY & CO.,

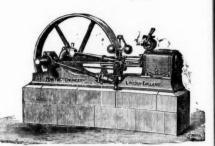
ENGINEERS, LINCOLN, ENGLAND.

London Office: 117, Cannon Street, London, E.C.





PATENT VERTICAL BOILERS, 2 to 12 horse power.



1MPROVED HORIZONTAL FIXED STEAM ENGINE, 4 to 60-horse power.

Num Disc Num Tota Wei Hei Num Scree Ton Ton Qua For

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PATENT

"INGERSOLL ROCK DRILL,"

LE GROS, MAYNE, LEAVER, & CO.,

80, Queen Victoria Street, London, E.C.

5, PARK PLACE, NEW YORK, U.S.A.



ee following extracts from the re-ports of Judges in awarding Medals:—

"2. Its simple construction ensures

construction ensures durability. &c.

"4.—The steam or air cushions at each end of cylinder effectually protect from injury "5. Its having an automatic feed, giving it a steady motion, &c.

"6. Its greater steadiness and absence of jar and vibration experienced in other drills, which is very destructive to their working variable. parts, &c.

"7. Its greater power is some FORTY PER CENT. in favour of the

Medals awarded for several years in succession "For the reason that we adjudge it so important in its use and complete in its construction as to supplant every article previously used for accomplishing the severage."

plishing the same purpose. Estimates given for Air ors and all kinds of Mining Air Compre Machinery. Send for monials, &c., as above. Send for Illustrated Catalogues. Price Lists, Testi-

JOHN AND EDWIN WRIGHT, PATENTEES.

(ESTABLISHED 1770.) MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED

PATENT FLAT AND ROUND WIRE ROPE from the very best quality of charcoal iron and steel wire.

PATENT FLAT AND ROUND HEMP ROPES,
SHIPS RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Wedster and Horsfalls
patent steel wire), HEMP, PLAX, ENGINE YARN, COTTON WASTF,
TARPAULING, OIL SHEETS, BRATTICE CLOTHS, &c.

UNIVERSE WORKS, MILLWALL, PCPLAR, LONDON. UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM.
CITY OFFICE, No. 5, LEADENHALL STREET, LONDON, E.

"CHAMPION" THEROCK BORER

STANDS UNRIVALLED

For Tunnels, Mines, Quarries, Harbour Works, Cutting Blocks of Granite, &c.

The working parts are made of the toughest steel and phosphor-bronze—steel castings are also used—so as to combine strength with light weight.

AIR-COMPRESSING MACHINERY
Of the simplest and best construction.

Combined Water-pressure Engines and Air-compressors,

ULLATHORNE & CO., es. QUEEN VICTORIA STREET, LONDON, E.C.

Archer's New Patent Stone Breakers.

Sole Makers: DUNSTON ENGINE WORKS CO., GATESHEAD-UPON-TYNE, ENGLAND.

STONE BREAKER,

For Road Metal, &c.

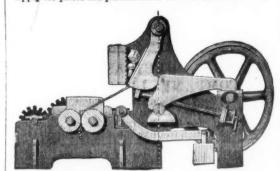
Machines with combined Vertical Jaw and CUBING ROLLER.

Guaranteed to break more cubical and to make less small than any other Machine. Simple Machines, with plain Vertical Jaws, without Roller.

PULVERISER,

For Crushing and Pulverising Rocks, Ores, Emery Stone, &c., &c.

Apply for prices and particulars to the Manufacturers, as above.



ARCHER'S PATENT BONE MILL-So!e Manufacturers.

MANUFACTURERS OF MARINE AND STATIONARY ENGINES; AND COLLIERY MACHINERY, CAGES, TUBS, &c., and every description of MACHINERY USED IN CHEMICAL WORKS.

Original Correspondence.

STAMPING MACHINERY.

Standard to the members of the Mining Institute of Cornwall, on Tin Standard Machinery. As a supplement to this paper, the following standard is given of the performance of some American Quartz information is given of the performance of some American Quartz Mills, constructed at the Union Iron Works, San Francisco:—

STANFORD MILL, AT WHITE PINE.

Silver Mill, Crushing Dry.	
Number of mortars	6
n' -tower of mortais	Double.
to each mortar	5
m tal number of stamps	30
The ight of a stamp in pounds	750
Weight of drop in inches	8
washer of drops per minute	95
General made of Drass Wire	—
made number of the screens	50
man of rock crushed in 24 hours	52
mong crushed per stamp per 24 hours	1.73
Quality of the rock	Hard.
Demation	Limestone
Fineness of the bullion	998
MEADOW VALLEY MILL AT PLOCHE	

MEADOW VALLEY MILL, AT PIOCHE, Silver Mill, Crushing Wet.

Number of mortars		***			***		***	6
Discharge of mortars								Double.
Number of stamps to	each	mor	tar	***				5
Total number of stamp	ec	***					***	30
Weight of a stamp in	pour	ads	***	***		***		750
Height of drop in inch	ies				***			9
Number of drops per I	ninu	te	***					85
Screens made of Russi	a iro	n, pi	inch	ed			***	-
Trade number of scree	ns	***	***		***			6
Tons of rock crushed i	n 24	hou	rs				***	67
Tons crushed per stan	ip pe	r 24	hour	t3	***		***	2.07
Quality of the rock								Tough.
Formation		***	***		***	***	***	Quartz.
Fineness of the bullion	n				***	***	***	550
DANNONS		n L		m D		* **		

RAYMOND AND ELY AT PIOCHE,

Silver Mill, Crushing Dry.		
Number of mortars	***	6
Discharge of mortars		Double.
Number of stamps to each mortar		5
Total number of stamps		30
Weight of stamps in lbs		750
Height of drop in inches		8
Number of drops per minute		95
Screens made of brass wire		
Trade number of screens	***	50
Tons of rock crushed in 24 hours		48
Tons crushed per stamp per 24 hours		1.6
Quality of rock		Easy.
Formation		Quartz.
est C 1 11'		775

INTERNATIONAL MILL AT WHITE PINE. The International Mill has 60 stamps—30 crushing dry and 30 crushing wet. Silver Mill, crushing dry.

Number of mortars								6
Discharge of mortars								Double.
Number of stamps to e	each	mor	tar	***	***			5
Total number of stamp	8		***			***		30
Weight of a stamp in I				***	***	***		750
Height of drop in inch	es	***	***		***		***	71
Number of drops per n				***	***			93
Screens made of brass			***					
Trade number of the se	cree	ns	***			***		50
Tons of rock crushed in	n 24	hour	rs		***	***	***	33
Tons crushed per stamp	p pe	r 24	hour	ā		***		1.1
Quality of the rock		***			***			Soft.
Formation	***		***]	Limestone.
Fineness of the bullion	***				***	***		990
Silver	Mill	Cru	shin	or W	et.			
Number of mortars		, 010	**************************************	B "	0 00			6

ing

rs,

E.C

 Number of mortars.
 6

 Discharge of mortars
 Double.

 Number of stamps to each mortar
 5

 Total number of stamps.
 30

 Weight of a stamp in pounds
 750

 Height of drop in inches
 7½

 Number of drops per minute
 87

 Screens made of Russia iron, punched
 6

 Trade number of the screens
 6

 Tons of rock crushed in 24 hours
 47

 Tons crushed per stamp per 24 hours
 1:57

 Quality of the rock
 Soft.

 Formation
 Limestone

 Fineness of the bullion
 990

 YSTONE CONSOLIDATED MILL AT AMADOR Co. CAUSERNIA.

REYSTONE CONSOLIDATED MILL AT AMADOR CO., CALIFORNIA.

(1.11	*****	-		***		,		
Gold	MIII	, Cru	shin	gW	et.			
Number of mortars		***	***		***	***		8
Discharge of mortars	***				***		***	Single.
number of stamps to e	ach	mor	tar	***				5
Total number of stamp	8	***	***	***	***		***	40
Weight of a stamp in	poun	ds	***	***			***	750
Height of a drop in in	ches.	***	***	***	* * *			81
Number of drops per n	ainu	te	***	***	***		***	85
Screens made of Russia	riro	n, sle	otted	L				_
Trade number of the so Tons of rock crushed i	reer	18	***		* * *			5
Tons crushed per stam	n 24	nou	18	***		***	***	90
Quality of	p pe	r Z/E	nour	8			***	2.25
Quality of rock Formation		***	***	***		***		Medium.
Fineness of the bullion	***						***	Quartz.
Fineness of the bullion	1							840
HUNTER'S VALLEY MID	LL,	AT M	IARI	POS	Co	., C	LIF	ORNIA.
Gold	Mill	Cru	ahin	or W	et			

COLC THEFT	2 010	TOTAL	36 77	CU.			
Number of mortare							6
Discharge of mortars					***		-
Number of standard	***					***	Single
Number of stamps to each	mor	tar					
rour mortars wit	h	***		***			4
Two mortars with	1						6
10tal number of stamps		***		***			28
Weight of a stamp in pour		***		***	***		
Height of descrip in pour	108			***			650
Height of drop in inches	***	***			***		11
and the of the party of the par	19.00						70
COLOCIES INSUE OF RUSSIA inc.	20 0000	nche	he				
Trade number of the screen	is, pu			***			
Tone of week	19	***					6
Tons of rock crushed per 2	4 ho	urs	***		***		50
Tons crushed per stamp per	r 24	hour	18				
In four-stamp mo	rtoro						1.75
In six etc.	Trutto	***	***	***	***		
Quality of six-stamp mor	tars	***		***			1.83
Quality of rock							Easy.
							Quart
Fineness of the bullion				***	***		Agreem 61
Sr L		***	***	***	***		

St. LAWRENCE MILL, AT NEWCASTLE, PLACER Co., CAL.

Gold Mill, Crushing We	et.			
Number of mortars	***	***	***	1
	***	***	***	6
Total number of stamps Weight of a stamp in pounds Height of desamp in pounds	* * *	***	***	6
			***	650
Number of drops per minute	***	***	***	10
Screens made of Russia iron, punched	***	***	* * *	90
or reasons from, punched		***		

Trade number of the screens
Tons of rock crushed in 24 hours 17
Tons crushed per stamp per 24 hours 285
Quality of the rock Brittle.
Formation Quartz.
Fineness of the bullion
EUREKA MILL, AT CARSON RIVER, NEAR VIRGINIA CITY.
Silver Mill, Crushing Wet.
Number of mortars 12

Number of mortars	***	***			12
Number of stamps to each mortar	***				5
Total number of stamps	***	***	***		60
Weight of a stamp in pounds	***	***	***		950
Height of drop in inches	***		***		9
Number of drops per minute	***			***	90
Screens made of Russia iron, punche	d		***		-
Trade number of the screens	***	***	***	***	4
Tons of rock crushed in 24 hours				***	159
Tons of rock per stamp per 24 hours					2.65
Quality of the rock					Easy.
Formation					Quartz.
Fineness of the bullion		***			.980
Wigner Programmer IN Wor	YF Y 37.	. 0	7 A TO 2	r or	

WATER REQUIRED IN WORKING QUARTZ. Each stamp uses 10 lbs. per minute. Each pan uses 16 lbs. per minute. Each settler uses 9 lbs. per minute. If the water is run from the mill into settling tanks it can be saved with a loss of 20 per cent. This will make the actual supply of water required in pounds per minute to be as follows:—For one stamp, 2; one pan, 3.2; one settler, 1.8.

Powe	R R	EQU:	REI	FO	R A	60-S	TAMP M	ILL.	
60 stamps, at	11-1	horse	por	wer				orse	power.
22 pans, at 4	-hors	e po	wer			***	88.0	99	**
11 settlers, a	t 3-h	orse	boa	7er	***	***	33 0	9.9	22
3 concentra					wer		60	99	59
1 rock-brea						***	5.5	99	93
Friction	***	***		***	***	***	25.0	22	22
				-					

Total power required 225·0-horse power.

WATER	REQUIRED FO	R 60-STA	MP	MIL	L.
225-horse power	r will require pe	er minute			169 lbs.
60 stamps	33	99		***	600 lbs.
22 pans	>>	11	***	***	352 lbs.
11 settlers	>>	99	***		99 lbs.
m 1					1000 11-

actual amount to be supplied as follows:—
20 per cent. of 1 051 lbs. 210 · 2 lbs.
58 per cent. of 169 lbs. 8 · 5 lbs.

Total water per minute 294.7 lbs.

THE MYSTERIES OF HUMANITY.

THE MISTERIES OF HOMANITI.

Sir,—In this free and happy land, which abounds with charitable institutions richly endowed, there is still no lack of benevolence. Human suffering in every form, whether it be from sickness, pecuniary distress, mental or bodily affliction, accident, or oppression, usually find friendly aid and speedy relief when publicly known, ard a vast number of the British public still devote their primary energies to the discovery of more cases in which to apply their pecuniary excesses to the best advantage, and this in all the purity of true Christianity.

energies to the discovery of more cases in which to apply their pecuniary excesses to the best advantage, and this in all the purity of true Christianity.

The abundance of wealth known to exist in this country, with its daily accumulations in the hands of the righteous, easily explains the magnitude of British beneficence; still there is a mystery in some of its details deserving mature consideration, with a view to extent its advantages to thousands of our fellow-creatures whose heavy claim upon our sympathies has hitherto been unheeded through the gross negligence of well-paid officials to listen to reason for the protection of human life entrusted to their charge.

"The sweet little cherub who sits up aloft to keep watch for the life of poor Jack"
has done much to ameliorate the condition of British seamen, and to lessen their perils, but the poor miner, who grovels in darkness in a pestiferous and deadly atmosphere, always surrounded by imminent danger to life or limb, appears to have no guardian angel, and but very few friends.

Collieries belonging to noblemen and other private individuals are worked by men whose actual masters are absolute strangers to them

and but very few friends.

Collieries belonging to noblemen and other private individuals are worked by men whose actual masters are absolute strangers to them and to their families; others belonging to public companies are even worse in this respect, so that something like 400,000 of this class of operatives have to look to an agent only, and not to their actual masters, to render and secure to them all the protection provided by law for their safety against premature death or mutulation.

With all the concomitant horrors of a miner's occupation there are but few acquainted, except those who from official knowledge cannot close their eyes to stubborn facts and statistics. These men become inured to the most appalling sights of human suffering, and some of them instead of encouraging investigation into valuable suggestions for improvement either actively or passively stifle enquiry. I need not travel out of the records of your own Journal to prove that philanthropic individuals like myself, although disinterested in every sense outside the question of humanity, always fail to move the obdurate hearts of such officials to pity, or to acknowledge by a word of thanks the unrequited labour of years to awaken in them a sense of shame for their past iniquities in the form of silent contempt. To justify the harshness of such language I challange them one and all to deny that I have devoted much of my time for many years to the thankless task of convincing them as to the fallacy of furnace ventilation. That I have proved to demonstration a remedy for much of the human slaughter in collieries, and sought, but in vain, for their co-operation in the application of such remedial means without the slightest stipulation for ulterior reward. If, then, such facts be conceded no one can be better informed than yourself that in a pecuniary sense I have also done my duty in the miner's cause, and, therefore, it merely remains for me to appeal—probably for the last time—to your scientific readers to explained, but if correct surel

The vilest criminal whose life has been forfeited by the outraged laws of the land invariably finds friends in perfect strangers, whose zeal is untiring to save a single human life, however deprayed, from a premature and ignominious end, and this is frequently encouraged by the daily and weekly press, but even this powerful organism is eloquent in behalf of the miners only when some vast destruction of life occurs, instead of raising its voice on behalf of science to present such salemities.

vent such calamities. It is, therefore, to me one of the greatest mysteries of humanity that although many men and women in private life leave nothing undone which their conscience dictates as being a Christian duty, undone which their conscience dictates as being a Christian duty, there are to be found among mining engineers, viewers, and owners of collieries men who seem determined to resist rather than to encourage any and every effort for the amelioration of the social condition of the mining fraternity, and to disregard all attempts to protect their lives from unnecessary slaughter. Let us hope they are few in number, but I shall anxiously await the result of this appeal to see how many, if any, of that class who will say a kind word or two upon the merits or demerits of the miners' long-tried friend—the man who successfully defeated the wily schemes to prevent the same who successfully defeated the wily schemes to prevent tors of Mines; the individual who caused the re-insertion by the House of Commons of a clause expunged by the Lords, rendering it imperative to give notice to such inspectors of all deaths in collieries before the holding of inquests: the author of such clause, and author

Mr. Gordon, from three only received their letters of freedom at his hands, signed by Mr. Gordon, which documents state the dom at his hands, signed by Mr. Gordon, which documents state the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the dom at his hands, signed by Mr. Gordon, which documents atte the Bordon the dom at his hands, signed by Mr. Gordon, which documents atte the Bordon All successfully and comparing to register all blacks befor

of "Money v. Life," a "Review and Exposition of Colliery Casualties, supported by Parliamentary evidence," and other irresistible proofs of long existing abuses; author also of "The Miners' Friend," and "Fiery Facts," an exposition of the iniquitous City coal tax, and an occasional correspondent to the Mining Journal for 27 years, always in the cause of the oppressed, and founder of the "National Institution," with similar objects in view.

In conclusion, I venture to repeat my former offer to revisit the Northern coal fields, for the purpose of submitting my plans once more for the inspection of all scientifically concerned, and if successful to make them a present of my long-cherished and hardearned laurels, being fully content and amply rewarded by a sense of duty as a man and a Christian, if permitted to remove the foul blot which now causes the slaughter of our fellow-creatures by hundreds, hurried into eternity without a moment's warning, the fragmentary remains of whose bodies frequently defy recognition by their nearest and dearest ties on earth. Will any one of the mining engineers, viewers, owners, or inspectors deny this, or still remain silent and unmoved to pity?

Southtown, Yarmouth, July 24.

PATENT EXPLOSIVES.

silent and unmoved to pity?

Southtown, Yarmouth, July 24.

PATENT EXPLOSIVES.

SIR,—Although it has been repeatedly stated in the Mining Journal that the most carefully conducted experiments of chemists who have devoted their lives to the manufacture and manipulation of explosives have proved that in all the nitroglycerine explosives who have devoted their lives to the manufacture and manipulation of explosives have proved that in all the nitroglycerine explosives is merely mechanically associated with the absorbent, whether this be kieselguhr, charcoal powder, or anything else, it is practically impossible to prevent their separation, and that the effect of such separation is to render the mass infinitely more dangerous than nitroglycerine itself, because from the assumed harmiesaness the same precautions against accident are not taken. The evidence brought forward in the enquiry before the Wreck Commissioner concerning the loss of the Great Queensland—a fine vessel of 1800 tons burthen, and carrying 33 passengers and a crew of 33, which has been sacrificed through the decomposition of a so-called nitro-compound, the ship having been literally blown to atoms—proved the existence of a state of things thought to be impossible. The amount of carelessness displayed in the manufacture of the powder, in its packing and storage, and, indeed, in everything connected with it is really marvellous. The annihilation of the vessel appears to have resulted from the explosion of 2 tons of Patent Safety Blasting Powder, manufactured by the Patent Gunpowder Connected with Weles. The company was established in 1872, pandy, in connected with Weles. The company was established in 1872, but did not commence on make powder until 1875. They appear to have been particularly unfortunate in their selection of managers, the first being Mr. Hunt, who acknowledged that he was "an engineer, but no chemist," whils his successor, Mr. Thistleton, was almost equally innocent of the science of chemistry, having derived the little knowledge whi

ported that consumers' stores had been returned to the works, the whole of the materials carefully examined and entirely re-made. Mr. Thistleton has been replaced by a competent chemist in the opinion of the company, but as his name is not mentioned no opinion can be formed; the result, however, does not appear to have been satisfactory, for the Wreck Commissioner states that the powder had, indeed, improved, but was dangerously impure from first to last. These being facts why will not miners be content with well-known and practically tested

July 24.

THE ST. JOHN DEL REY MINING COMPANY, AND ITS CONTRACT FOR HIRE OF THE SLAVES OF THE LATE BRAZILIAN (CATA BRANCA) COMPANY.

BRAZILIAN (CATA BRANCA) COMPANY.

SIR,—At a court held by the Juiz Municipal at Sabara, Mr. James
Newell Gordon, the superintendent of the St. John del Rey Mining
Company (Limited), of Morro Velho, and also British Vice-Consul
for the province of Minas Geraes, was summoned to show cause why
the blacks of the late Brazilian Company had been kept in slavery
from 1859 to the present time, contrary to the clauses of the contract entered into between the companies, dated June 27. 1845.

It appeared that the contract was to the following effect:—The
hiring was to be for 14 years, the payments to be made in London;
all the children who came from Cata Branca to Morro Velho were
to be free on attaining their majority, and all born during the continuance of the contract were to be free absolutely at the end of the
contract with their parents. The contract expired in 1859, and all
were, consequently, free and entitled to their liberty.

It appears that all the clauses relating to the freedom of the blacks

were, consequently, free and entitled to their liberty.

It appears that all the clauses relating to the freedom of the blacks have been systematically broken, and the blacks been kept in slavery. In 1859 a few, in consequence of having money saved up and deposited for their freedom, applied to Mr. Gordon for their letters, when he stated they must yet serve for 10 years, which those who lived did till 1869, when three only received their letters of freedom at his hands, signed by Mr. Gordon, which documents state the (Cata Branca) Brazilian Company to be extinct. In 1871 the Brazilian Government passed a law regarding slavery, making it compulsory to register all blacks before or on Sept. 30, 1872, under penulty of the owner losing all rights over his blacks, and their be-

of the St. J hn del Rey Company, secured the election of the Government officers and officials whose duty it is to look into such matters, and from the fact that although it was well known at the mine and in the neighbourhood that the Cata Branca blacks were illegally held in slavery no legal proof could be produced, as the contract had never been registered, and, therefore, till the present time, when fortunately a legal copy of the contract had been obtained, nothing could be done.

The judge then made an order that Sr. Jacintho Dias da Silva he appointed trustee of the blacks, and the defendant be allowed 90 days to answer the serious allegations.

It appeared that the contract was for the letting and hiring

of 221 men, 88 women, and 76 children (33 girls, and 43 boys)— 385 human souls. It also appeared that all the children born have been kept in slavery, and the children of some of the children. We are informed that on June 13 Mr. James Newell Gordon was

we are informed that of June 15 Mr. James Newell Gordon was summarily dismissed from his post of superintendent of the St. John del Rey Mining Company at Morro Velho, which event was celebrated with great rejoicings, parading of bands of music, and an immense display of fireworks.

There is no doubt all the slaves will receive their wages from the

There is no doubt all the slaves will receive their wages from the St. John del Rey Mining Company (Limited), amounting in the whole to a very large sum, and this, with the loss of their services, will be a most serious matter.

This event has caused a great sensation all through the mining

DEFUNCT LIMITED COMPANIES.

All the shareholders who attended the meetings held at the Guildhalt Tavern must be painfully aware of the lack of duties performed by the late secretary and some of his directors. The appointment of directors, instead of being nominated by the shareholders for their knowledge of mining, were placed in that position by the late secretary, who so managed to keep them ignorant of the real state of things. It is of little use regretting the past; let the shareholders select such men at the coming meetings as know what mining is and what qualit to be done and not as in some Welsh mining is, and what ought to be done, and not, as in some Welsh mines, worked in the most disgraceful manner to suit the book of the secretary, under the threat of dismissal if not carried out. The Limited Companies Act has been, as applied to mining, disastrous to all interested, and disastrous to the mines also. Names and not men have received the fees who suited promoters; let us have no more of this, but earnestly and economically strive to develope the properties that survive the wreck by a strict enquiry into what is doing .- July 25.

CLEANING AND SEPARATING EXCHEQUER SILVER ORE.

SIR,—I have been requested by Lord Poulett to write to you respecting an entirely new process of cleaning and separating gold and silver ore when first taken out from the mine. The invention or discovery is one made by a Mr. Maxwell Lyte, a man of high restations and characteristics. or discovery is one made by a Mr. Maxwell Lyte, a man of high reputation and character as an analyst and chemist. He has lately analysed some of the ore from the Exchequer Mine, and finds it most rich—something like 12 lbs. 80 grammes to the ton. This ore was sent him by Messrs. Wickham and Co., his lawyers, in Essex-street, Strand. Up to to-day the chemicals as well as the manner used in getting at the precious metal of mines is most expensive, owing to the quantity of mercury obliged to be used, whereas by Mr. Lyte's discovery this is done away with, and some very considerable sum of money per each ton saved. Lord Poulett tells me that you are sadly in want of a good metallurgist or chemist; I think, therefore, that it really is worth your while to pay serious and speedy attentating the same of the same contents. sady in want of a good metallurgist or chemist; Ithink, therefore, that it really is worth your while to pay serious and speedy attention to the purport of this letter, and to instantly place yourself in communication with Mr. Lyte on the subject, and then to come over yourself and see him, when he will explain and demonstrate everything to you; or else invite him over to London to explain all to your company, but no time should be lost. Mr. Lyte says the quality of your silver is the best he ever saw in the world. I hope soon to hear from you in really to this and that you will give the subject

of your silver is the best he ever saw in the world. I hope soon to hear from you in reply to this, and that you will give the subject your most serious and earnest consideration, and act at once, as it really is of immense value to you.

Paris, July 19.

There is also the following testimony:—

We, the undersigned residents of Silver Mountain, the county seat of Alpine, hereby certify that we have resided in this county for the number of years set opposite to our names respectively. That we are well acquainted with the IX L. and Exchequer Mines in Scandinavian Canyon; many of us have worked in the mines, and that but for our firm faith and unshaken confidence in the ultimate success of these mines are destined under Mr Chalmers' management, if properly supported, to bring out the camp, and with it our interests therein, and that at no distant date. Given under our hands at Silver Mountain before and in the presence of T. W. Leegett, Notary Public:—

o distant dates							FACT	-	Sementia octoro that to
ence of T. W. Leg									
	es.				ears				Occupation.
R. M. Ford, P.1						11	***		Postmaster.
Thos. J. Orgon,					***	11			Lawyer.
L. M Buel, cou					***	4	***	***	Miner.
Jas. Davidson,	under	sher	iff	***		9	***	***	ditto.
Thos. W. Legge	tt, cou	inty	treas	ure	P	12	***	***	ditto.
John J. Rice .			***	***	***	11	***	***	ditto.
			***	***	***	13			ditto.
John Sanquet .		***	***	***	***	12	***		Merchant.
Thos. Hay		***	***		***	12		***	Miner.
Joseph Mitchell			***		***	3	***		ditto.
J. Lomas		**		***	***	4	***	***	ditto.
Jacob Miller .		***		***		5		***	ditto.
P. Schlytter .		***		***		5	***	***	ditto.
Nils Eid		***	***		***	10	***		dirto.
Peter Peterson			***	***		12			ditto.
Andrew Quaille	***	***	***		***	13			ditto.
J. Johnson		***	***	***	***	11	***		ditto.
H. Craig			***	***		11			ditto.
R. M. and A. C					***	105	2		Publishers.
		***	***	***	***	13			Resident and miner
		***				10	***		Miner.
					***	3			ditto.
Wm. J-rnberg			***	***		2	***		Engineer.
P. F. Ahlstrom			***	***	***	2		***	ditto.
Thos. Ellinghan		***	***	***	***	2	***		
W WW 15			***			I	2		
				***	***	1			Carrenter.
		***				13			
J. H. Hammon				***		11			
O. A. 21.					0.0				

In witness whereof, I have hereunto set my hand and affixed my official seal, at my office, in the county of Alpine.

THOMAS W. LEGGETT, Notary Public.

THE EXCHEQUER, AND THE COMSTOCK LODES.

SIR,—As a shareholder I have received the "analysis and remarks on the recent report of Mr. Price." Like many others with whom I have conversed, I certainly agree with Mr. H. Sewell that this report is full of remarkable incongruities. Mr. Sewell most conclusively replies to these obvious inconsistencies. Mr. Price says:

—"That because the Exchequer veins are not contact lodes, like the Comstock, &c." But is the Comstock a contact vein? On all hands it is admitted, that the greater geologic in the United Stanting. Comstock, &c." But is the Comstock a contact vein; On all mans it is admitted that the greatest geologist in the United States is Prof. Clarence King, who is favourably known to the English public. Now, upon this question of the Comstock, what says this great authority? Clarence King, in his exhaustive "Report on the Comstock, when the following important the company of the Company of the Comstock of the Comsto authority? Clarence King, in his exhaustive "Report on the Comstock Lode" (vol. III., page 27), makes the following important statement:—"That only during the middle of its course does it occupy a line of contact between syenite and the propylites" "North of the Ophir (Clarence King says) the lode is walled on both sides by propylite (or porphyry); south of the Gold Hill divide it leaves the syenite, and is carried southward chiefly in propylite." From the same chapter (section 2, page 37) "the lode is stated to be 22,000 ft. long," and on page 38, Clarence King says "that for only 4800 ft. does syenite form the west wall," and on the same page "even to the north and south, where it continues wholly in propylite." He also says (page 39) "the propylite sometimes loses its porphyritic texture." Again, page 42, "deposits of silver occur in the auentz distributing themselves carricelously in segregated.

its porphyritic texture." Again, page 42, "deposits of silver occur in the quartz distributing themselves capriciously in segregated bonanzas, separated from each other by intervals of entirely barren gangue, or of ore so poor as to be unworkable."

Again, page 45, "Ore was wholly wanting in the Crown Point workings of this (Comstock) vein down to 39 ft., above the 500 ft. level, where 130 ft. east of shaft and 60 ft. south of its plane a small silver deposit made its appearance, occupying 20 ft. of the quartz body, narrowing as it descended, and entering it as a wedge. In

the Yellow Jacket, on the same level, a small body of workable ore, 30 ft. long and 20 it. high." At page 46, "No ore in the vein of any width till 730 ft. level in Yellow Jacket, where it was 20 ft. wide." Then as to the result of the run at the Exchequer Mill. At page 55, Clarence King says, "All ore selections are made by the miner's eye, the constantly changing percentages in the rock defying a general estimate. The only true value is gotten by mill returns."

It will not be disputed (because the ore has been received in London) that the Exchequer Mine has produced stones of ore that will yield from \$500 to \$5000 per ton. Now, where did they come from? Of course, from below, where there is no doubt plenty of it. One more quotation and I have done. At page 74 Clarence King says, "After this had be-n stoped away it was found that the next zone was composed of large blocks, showing no ore on the outside but extremely rich inside."

Mr. Clarence King's statements as to the Comstock not being a contact vein effectually disposes of Mr. Price's off-hand assertion. Who advised our directors to obtain the opinion of Mr. Price? Has he ever had any experience in silver mining or in any description of mining? Upon enquiry, I hear that he is simply an assayer in San Francisco, although he had something to do with the ill-fated Independence Gold Mine, and now occupies a similar position in connection with an obscure hydraulic mine which has been working for many years without any result to the shareholders save a perpetual increase of capital. Why did not our directors engage the services of some acknowledged authority upon silver mining, whose report upon our property would have been received by us with confidence and without suspicion? This has to be done before any proper conclusion can be come to.

July 25. proper conclusion can be come to.

A SANGUINE SHAREHOLDER,

EXCHEQUER GOLD AND SILVER MINING COMPANY.

SIR,—On May 8 a circular was issued by the executive of the Exchequer Company stating that Prof. Thomas Price, of San Francisco, had been appointed to check the statements of Capt. Nettle as to the value of the ore on the mine dump, and in that circular Prof. Price was described as having a well-established reputation in this capture was described as having a well-established reputation. in this country and California, both as an experienced mining expert and as a practically scientific metallurgist, and it was anticipated that his report would dissipate the feelings of uneasiness then experienced. These facts were fully stated in the Mining Journal of the Saturday following. Prof. Price's report, so far from dissipating the uneasiness, has proved that the most gloomy forebodings as to the prospective value of the mine were justified. But because Prof. Price's report is unfavourable it is now sought by the same executive that so highly commended him in May to show that he knows nothing of either mining or metallurgy, which anyone with the feelings of an Englishman will say is most unfair, and I doubt whether the effort now made to discredit him will have any other effect than still further to shake the confidence of the shareholders, and to give even more weight to Professor Price's opinion than it would have had otherwise.

holders, and to give even more weight to Professor Price's opinion than it would have had otherwise.

Prof. Price states that the company's properties are situated in Silver Mountain, Alpine County. California, and that the geographical and geological features of the district having been already described, he will confine himself to actual developments at the present time and future prospects. The present working vertical shaft is 450 ft. deep, or fally 600 ft. on the course of the vein: five different levels have been opened, varying from 200 to 900 ft. long on the course of the fissure, but so far without resulting in the discovery of any paying quantities of ore. The fissure, though well-defined, is but very irregularly filled with quartz, and the latter contains but very little silver ore. The silver generally, as sulphide, is very diffused, and in very small quantities, but as it generally occurs in very thin flakes, it would at first sight lead one to think the ore rich, and occasionally very rich stones are encountered, but they prove a very insignificant portion of the whole mass of the vein. The average assay of 300 tons of selected ore yielded only \$7 per ton. Seven samples taken from the hard rock during the two days he was at the mine yielded only \$4 per ton. The 800 tons of ore now at the mill, which has been selected from all the workings with great care, only assays \$5\frac{1}{2}, not enough to pay one-half of the milling expenses. From the above fact it is evident that up to the present time the prospects are of a most discouraging character. He has given careful attention to the underground workings, as developed by levels, drifts, and cross-cuts, and has no hesitation in informing them that up to the present time they have no available profitable ore reserves. If any exist they has no hestation in informing them that up to the present time they have no available profitable ore reserves. If any exist they must be much deeper. . . . The company are in good condition for future prospecting, having their roads built, substantial hoisting works in place, and a well contrived mill for extracting the precious metals when discovered. . . . There are several discouraging features connected with the mining properties of this district which are as follows: —1. Natwithstanding that a very

discouraging features connected with the mining properties of this district, which are as follows:—I. Notwithstanding that a very large amount has been performed at various points, yet in no instance has any considerable amount of paying ore been extracted.—2. In all promising metalliferous districts rich deposits are found in some of the veins either near the surface or at no very considerable depth, hence the encouragements in such districts to prosecute work to greater depth.—3. The company's vein is not a contact vein, or one situated between two dissimilar formations. All of the vem, or one situated between two dissimilar formations. All of the company's veins are contained in trachyte, and totally unlike the great Comstick Lode, which has syenite for a foot-wall and trachytic porphyry for the hanging-wall. The chances of discovering any con-iderable ore bodies in the immediate future are not of a very encouraging character; if any exist they must be at a very

The report, of which the above is a full précis, has been placed in the hands of Mr. Henry Sewell, who, somewhat unprofessionally, questions his colleague's ability, forgetting that Prof. Price, writing of American mines and veins, bases his statements upon facts ascertained with regard to them, while all that Mr. Sewell shows is that in Saxony, Spain, Mexico, Chili, Bolivia, and elsewhere good mines have been found under conditions similar to those existing at the Exchequer. These facts were, doubtless, as well known to Prof. Price as they are to all other mining engineers and professors—they are recorded everywhere—but Prof. Price states that in the particular district upon which he reported the conditions existing at the mines about which he was giving an opinion had not proved favourable. The notion that a man was sent to report upon the working of a furnice where there was practically no ore to work in it need not be discussed. Mr. Sawell is of opinion that possibly the rich ore has escaped laterally, and there is not the slightest doubt in his mind that a body of rich ore exists somewhere in the mines. Though this is somewhat indefinite—a little on the "where 'tis there 'tis" principle—I hope Mr. Sewell's opinion will prove correct, but until then it is but reasonable to ask that Prof. Price also should have all title Old Broad street, July 25. The report, of which the above is a full precis, has been placed in

Old Broad street, July 25.

EXCHEQUER GOLD AND SILVER MINING COMPANY.

Sir. - The manner in which the directors of this company have dealt with the report of Professor Price shows that they argue some-what thus—if we employ a man to examine our mines we pay him for a useful report; that is to say, useful for sharedealing and capital raising purposes. If after examining our property he reports unfavourably he must be incompetent, or wanting in integrity. Some would consider this a non sequitur, and many shareholders up connected with the board will prefer a truthful report, though unfavourable, to a glowing one written to orders, whether expressed or implied. The opinions of various persons are given as opposed to that of Professor Price, but it is unfortunate that of the list given but one gentleman can be mentioned—Mr. J. J. Cooper, M.E., who was recommended by Messrs. John Taylor and Sons—whose opinion is worth the paper it is written on. All the others are in the hap-piest ign rance of mining, most of them never having been in a dozen mines in their life, and then only under the guidance of practical miners, like infants in the hands of nursemaids; the remainder have either never been in a mine or owe their position to mere book knowledge. And it is still more unfortunate that Mr. J. J. able man he, doubtless, was, and by some unaccourance is at present no mine worthy the name in the Exchequer discompanies. Unaccountable ingenuity, did I say?

crict, but that at considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost a charge are almost as good processing the considerable depth-1000 feet-there is a charge are almost an almost a charge are almost a char triet, but that at conscierable depth a solution there is a chaof finding one. Why, there are almost as good prospects as the converse of the

in Cornwall, Wales, or Ireland without going 5000 or 6000 miles to look for them.

Another point is that the directors claim to have received information that while at Silver Mountain Prof. Price expressed himself to that while at Silver Mountain Prof. Price expressed himself to Folger, proprietor of the Alpine Chronicle, to the effect that his Folger, proprietor of the Alpine Chronicle, to the effect that his he honour for being employed by the directors of the Exchenge Company, it would have been dishonest to his employers to have given other persons the advantage of priority of information which holders. It may be he failed to follow Artemus Ward's examples saying "this is irony" when he made the statement; it may be that he recollected another American wit's statement that "leeches to only relieve themselves by vomitting, and if you be attacked by a newspaper leech be careful to let him have only such blood as ha may vomit to your own advantage," or it may be, which is the mas likely of the three, that the news that the report was to be favour able was cabled to Eagland, and being acted upon by those in (?) the secret prevented their getting out of their shares before the market was gone. All these, however, are but suppositions, and suppositions which would never have existed but for the manner in the constant of the suppositions, and suppositions which would never have existed but for the manner in the constant of the suppositions, and suppositions, and suppositions which would never have existed but for the manner to the constant of the constant of the constant of the suppositions, and suppositions which would never have existed but for the manner to the constant of the cons

able was cabled to England, and being acted upon by those in (2) the secret prevented their getting out of their shares before the market was gone. All these, however, are but suppositions, and suppositions which would never have existed but for the manner in which the report, because adverse, has been received.

There can be no doubt as to the accuracy of Mr. Lewis Chalmer's statement that the mine was not looking well on Mr. Price's visit, and this being so, how could the executive suppose that a man of Prof. Price's reputation would, in the face of that fact, write a favourable report? Mr. Chalmers states that there were no bunches of rich ore in sight, and experience has proved that these bunches have never been sufficiently numerous to make the mine pay costeven Mr. Chalmers admits that the grade of ore, as well as the outurn, will have to be improved. Mr. Chalmers's suggestion to sink to the 1000 ft. level is really only what would naturally follow Prof. Price's report if it be determined to continue the mine at all; though, for my own part, I would much sooner try another and more premising mining district altogether. The fact that an assistant of Prof. Price found \$26 9-10 gold and \$145 3 10 silver in a stone of ore which he assayed also corroborates Prof. Price's statement that very rich stones of ore are occasionally met with, though their occurrence is so rare that they are scarcely worthy of consideration, while the publication of an assay of one of the e stones is positively delusive. No one will rejoice more than I if the improvement in the while the publication of an assay of one of the estones is positively delusive. No one will rejoice more than I if the improvement in the 400 ft level proves permanent, but the general character of the district certainly does not warrant such a hope. The directors sy that in requesting Mr. Price to visit Silver Mountain they "were more desirous to have his opinion of the O'Hara furnace than with regard to the mine, as they were informed that he is an authority more particularly on metallurgy." I should not like to have the shadow of a suspicion that our directors are playing fast and loos with us, but I cannot shut my eyes to facts.

I am aware that men sometimes lose in their old age the ability they possessed in the prime of life, but I never before heard of a man's technical ability utterly fading in three months, though some

they possessed in the prime of life, but I never before heard of a man's technical ability utterly fading in three months, though some who are green and youthful are wonderfully altered by three months' experience. May I ask how it happens that if the directors were informed in May that Prof. Price is an authority, more particularly on metallurgly, they were led to state in that very month that he "had a well-established reputation in this country and in California both as an experienced mining expert and as a practically scientific metallurgist." The directors surely cannot declare that on behalf of the shareholders they appointed a man about whose antecedents and position they knew nothing, or that known in his antecedents and position they knew them to be shedy. It ing his antecedents and position they knew them to be shady. It would be unjust to the directors to accuse them of such direliction of duty. All their actions prove the contrary, and especially now that we have their statement as to the minute enquiries they have that we have their statement as to the minute enquiries they have made concerning Mr. Henry Sewell, who it is rumored is to be set out in the hope that "his report will dissipate present feelings of uneasiness"—to use the words employed when Prof. Price was appointed. In connection with the investigation of Mr. H. Sewell's character, the enquiry has been almost insultingly minute, and that the questions which must have been put to him were answered at all, considering his reputation and experience, can only be attributed to the excessive politeness he inherits from the Chilianlady who has the privilege of being his mother. Not only have the Ecchequer directors collected enough materials to write his biography, but they have ascertained the names of all the professors and teachers at the school in which he studied, obtained information as to interesting incidents which have happened in the lives of his brothers, and even ascertained to whom he was married—afact which, although sometimes woman rules, can scarcely be regarded

s material for determining whether a man is competent to examine The directors say that Mr. Price is not infallible, and probably even the Professor himself does not claim infallibility, but he has certainly shown his practical and commercial wisdom in taking the average value of the ore, and the general prospects of the mine and average value of the ore, and the general prospects of the musual district, as deduced from ascertained facts obtained in the actual opening out and development of mines by the Exchequer Company's officers, and those of n-ighbouring mines, rather then making a lag and tetious search for a promising-looking stone of ore, or even for a sackful of good-looking mineral, and then leading the shareholders to suppose that these "slogging stones" are the average yield of the mines. Prof. Price is entitled to the best thanks of the shareholders for bright the district of seater which will benefit the discretors as being the state of the state of the shareholders. for boldly stating facts which will benefit the directors, as being among the largest shareholders, more than many others.

which, although sometimes woman rules, can scarcely be regarded

Junior Cariton, July 24.

MINING-ITS MANAGEMENT AND ABUSES.

MINING—ITS MANAGEMENT AND ABUSES.

Sir,—It is to the Mining Journal that the public are indebted for their knowledge as to the sayings and doings in all matters enected with mining—as to whether shareholders are pleased or displeased, whether in mining enterprises fortunes have been made at fortunes lost, if resulting in profit or loss, in success or in ruin, &c. That the latter should be the rule—particularly in foreign minesis not to be wondered at, for it would appear as though London mining boards of directors, being totally ignorant of mining theselves, and consequently as to the necessary and indispensible qualifications of the mining manager, selected this functionary purposely on account of his incapacity, for his unfitness for the passwhich he is to occupy. Otherwise—as "kissing goes by favour"—being a relative, friend, or lackey of someone connected directly a indirectly with the concern, is recommended as a person possesing all things—every suitable qualification; whereas he possesses nothing, is totally ignorant of the business which is confided to his charge; should be happen to have been recommended by Professionant of mining as all the rest of the professors, as well as of the necessary qualifications of the person whom he recommends; lufor the ignorance of the unqualified manager, and others equally unqualified, the poor dupes of shareholders have to pay. This her for the ignorance of the unquilified manager, and others equily inqualified, the poor dupes of shareholders have to pay. This her have proved to their sorrow, and many to their utter ruin. What has become of the forty American mines, absorbing ten millions of English capital, and which two or three years ago figured in the London Stock Exchange, and which have dropped into silence? No mention is now made of them. Scarcely one American mine of of the number was ever managed by a man who knew aught of mining. The Emma, for example, for which 1,000,000. sterling was acid is not an exception. Their first manager was a Californian Their first manager was a Californian paid, is not an exception. Their first manager was a Californan banker, who was succeeded in the management by a young man who was never a miner in his life—a nephew, I am told, of the late Prof. Forbes, by whom, of course, he was recommended; and the fact of his having been recommended by Prof. Forbes was amply sufficient, Professor Forbes having managed to induce the people of London to believe that he himself was an oracle in mining. What a delusion! Professor of what was Mr. Karkara A. highly restrict. London to believe that he himself was an oracle in mining. Mark a delusion! Professor of what was Mr. Forbes? A highly refer able man he, doubtless, was, and by some unaccountable ingentify managed to be appointed consulting mining engineer of several companies. Unaccountable ingenuity, did I say? Rather should

I have said namining—word fessor knew half the alphalf the alphalf the alphalf figured in the street of gunpowd which to account aware that thouset in the sponsible manner than the sponsible manner that the sponsible manner than the spons A man ma and has still and has still always addi room is emp allowed to b rection—her enquiries an men who ha loss of their loss of their following the also. Probe equally unce have noticed shareholders shareholders seem to cast tors, on Mr. Mr. Joy. tw together the representati ing induced money in th "puffed bey pounds per of being on time the pro-men of com capital on se and reports, named? Ge-ledge of mi alightest kn whether wo to enquire, Poulett kno ing that his from the re-that Mr. Ro

JULY !

London as men pretended not only tex also. I tended to the enterpri they said a ing a matte they also w fellow-shar rienced me collapse, an lets go his r pains to asc or contemn knowledge glowing, re of deeply p ment, and manifest ar at anything terior regio itself to his thereon she for the mar charlatan 1 manage a n upon. The Yankee lan ever had fo up to the p departed fr miner to m of the Exc to above, v

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Ever read their reac a mining turn; and his arriva Excheque cial meeti Mansell o are confi. dulous w meetings rectors, highly pl Mr. Dolly rendered the merit Who su it is scar-at his ow

I have said that to appoint anyone suitable—one who understood I have said would have been against the established rule mining would have been against the established with mining as any of the professors who, with gesor knew as much of mining as any of the mining and the alphabet attached to their names, have from time to time half the alphabet attached to their names, have should be alphabet attached to their names, have should be alphabet attached to the said the s figured in the Journal. Not one of them knows one iota of mining, figured in the yever entitled to give an opinion thereon. How should not were they ever, with pick in hand, and by the force they know it? Did they ever, with pick in hand, and by the force of gunower, explore the bowels of the earth? The only mode by of gunower, explore the theorem. of guipowder, explore the bowels of the earth? The only mode by of guipowder, and knowledge of mining, or of the phenomena which to acquire any knowledge of mining, or of the phenomena and indications productive of metallic substances. These men, and indications do not understand the matter, cannot possibly be aware that they do not understand the matter, cannot possibly be honest in their pretensions when they presume to undertake the re-

aware that in their pretensions when they presume to undertake the repossible mission of examining and reporting on mines.

A man may have been practically employed for 50 years in mining

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A man may have been practically employed for 50 years in mining

and has still more to learn; he is never fully taught, is still and

always adding to his experience, and yet a novice. A mere mush
room is employed in this abstruss science, and the fate of millions

allowed to hang on his judgment and to be expended under his di
allowed to hang on his judgment and to be expended under his di
rection—hence collapse and ruin. True it is that frequent are the

requiries and complaints which appear in the Journal from gentle
men who have been deceived, duped, and gulled, allured into the

loss of their money, yet this fact does not seem to deter others from

following their disastrous example, from venturing their money men who were the state of the s representations of the mine, and by said misrepresentations of having induced many confiding, unsuspecting people to part with their induced many confiding, unsuspecting people to part with their money in the purchase of the shares, which, by their having been "puffed beyond measure," they had to pay a greater number of points per share than they are now worth shillings; that instead of being on the eve of dividends they find that up to the present time the property is worthless, &c. But is it not astonishing that men of common sense—or of any sense at all—should venture their spital on such doubtful and uncertain data, such worthless rumours are prorts, the reports and assertions of such men as those above. spital on such doubtful and uncertain data, such worthless rumours and reports, the reports and assertions of such men as those abovenmed? Gentlemen no doubt, but possessing not the slightest knowledge of mining, and yet people let their money go without the slightest knowledge of the persons from whom the reports emanated, whether worthy of their confidence or not. They take not the pains to enquire, but snap at the bait at once. What, I ask, can Earl Poulett know as to the merits and value of a mine—even supposing that his lordship had seen it? What he knows must be solely from the report of others; then why make assertions? It is stated that Mr. Romaine and Mr. Joy did see it; that they went to the mines from London for the purpose, but any man possessed of comthat Mr. Komaine and Mr. Joy did see it; that they went to the mines from London for the purpose, but any man possessed of common sense must not be ignorant of the fact that these gentlemen, notwithstanding their extraordinary report as to the merits and value of the mines, knew as much about them before they left London as they did on their return from them. Thus it is that men pretending to understand things which they do not are blindly led not only into their own ruin, but they draw others into the vorseles. Lid on not for a moment suppose that these contemps

men pretending to diductive the content of the vortex also. I do not for a moment suppose that these gentlemen intended to deceive; how could they, when they themselves are in the enterprise? What they said or did was said or done innocently, their imagination leading them to think that everything was as they said and as they would, doubtless, wish.

No doubt that they were wrong in publishing statements respecting a matter beyond their grasp, but as everything in the shape of a man thinks himself a qualified miner they, doubtless, thought that they also were entitled to offer an opinion, and to report to their fellow-shareholders on the property. Such reports from inexperienced men, however, are too frequently acted upon, heace failures, collapse, and ruin. But I know not whether the poor dupe who lets go his money on the reports of such people without taking the pains to ascertain who and what they are is the more to be pitied or contenned. Capitalists in general being totally devoid of mining knowledge and experience allow themselves by uncertain, but glowing, reports to be wheedled out of their money, and even men of deeply penetrating minds, of sound practical commercial judgknowledge and experience allow themselves by uncertain, but glowing, reports to be wheedled out of their money, and even men of deeply penetrating minds, of sound practical commercial judgment, and possessing unquestionable abilities as to things in general, manifest an astoni-hing amount of ignorance as soon as they look at anything connected with mining. Unless a man be a thoroughly practical miner. From having for a series of years explored the interior regions of the earth, noticing every phenomenon that presents itself to his view, neither his judgment on mining nor his reports thereon should be deemed worth one straw, nor will he be suitable for the management of a mine. Nothing is more dangerous than charlatan mining. The rule, however, of employing a miner to manage a mine does not seem to be adopted, is not generally acted upon. The Richmond for their chief have a parson; and going from Yankee land across to the Venezuelan Mines, the only man they ever had for manager, inspector, or reporter—from the beginning pto the present—who knew aught of mining was Capt. Brown, who died at the mines. The directors in this instance seem to have departed from the apparently established custom, and sent out a miner to manage their mines. Mr. Chalmers, the resident manager of the Exchequer, and who is one of the censured gentlemen alluded to above, was, I am informed, a Scotch magistrate, who matriculated in mining at the so-called School of Mines at Freiberg, where he could have advanced in the knowledge and science of mining just as much, and no more, than he could have at the magistrates bench as much, and no more, than he could have at the magistrates' benc's in Scotland. As I before asserted, the only school—the only laboratory at which mining knowledge is to be acquired—is in the bowels of the earth, pick and gad in hand. Mr. Chalmers is said to bare stated in his last report, "Your riches are under your feet, if mineral indications are anything better than a delusion and a snare. Thave not the smallest doubt of it and I shall maintain that under I have not the smallest doubt of it, and I shall maintain that under your feet you have a magnificent property, manage it as you will.
Play where did this gentleman learn to know what mineral indications are? At the magistrates' bench in Scotland, or at the school of mining matriculation in Germany? It would seem, however, that his indications have proved hitherto to have been "a delusion and a snew."

The shareholders are displeased, and have dismissed the poor man, from whom they could not reasonably have expected a more correct statement, or a sounder judgment, and have appointed his successor in the shape of another Freibergian. Well it is if they have not exchanged the frying-pan for the fire. The blind leads the blind until they both fall into the ditch. Such it is frequently in London mining management. "This firm," said your correspondent, 'Another Shareholder.' Who or what is the "firm" but a comparative boy dealing in mine shares, but shrewdly calculating, and no doubt accurately, on the voracious appetite of the public. Ever ready to swallow anything and everything placed within their reach, takes it into his head to go to America in the shape of The shareholders are displeased, and have dismissed the poor Ever ready to swallow anything and everything placed their reach; takes it into his head to go to America in the shape of a mining "expert"—never having seen a mine in his life—with the intention doubtless of issuing reports and selling shares on his return; and, notwithstanding his never having seen a mine before, on his arrival in England from his visit of mine inspection at the Exchequer the noble chairman of the board of directors calls a special meeting of the shareholder to have the gravet of the Margaretian of the shareholder to have the gravet of the Margaretian of the shareholder to have the gravet of the Margaretian of the shareholder to have the gravet of the Margaretian of the shareholder to have the gravet of the Margaretian of the shareholder to have the gravet of the Margaretian of the shareholder to have the gravet of the Margaretian of the shareholder to Exchequer the noble chairman of the board of directors calls a special meeting of the shareholders to hear the report of the Messrs. Mansell on their property. If reports by such inexperienced men are confiled in by boards of directors, and paraded before shareholders and the public, what have they to expect but deception and delusion? But that such reports are made use of to beguite the credulous we have ample proof. How often do we see that at mine meetings the chairman tells the shareholders that "one of your directors, Mr. Dollypuff, has been seeing the mine, and that he is highly pleased with all he saw"; that "we are much indebted to Mr. Dollypuff for his lucid report, and for the great service he has rendered the company." Why, Mr. Dollypuff knew as much as to the merits of the mine before he saw it as he did afterwards.

Who supplied Mr. Mansell with funds for his trip to America, for it is scarcely likely that he would have undertaken such a journey at his area.

scarcely likely that he would have undertaken such a journey at his own expense? We are not told; neither are we told who sup-

easily conjectured. Your correspondent seems to wonder at the sudden change that has come over the scene—at the silence of the "firm"—after having weekly, for so long a time, represented the mine in such glowing colours. Did it never occur to him that the reporting and extolling would cease as soon as the "firm" had sold all its disposeable shares, that the express design of the reporting was to accelerate the sale—no other interest felt—and that the cessation of the sale and that of the reporting would synchronise to a moment? I have no doubt that the trip of the "firm" to America told favourably—a very well concocted "dodge!" Fools and their money are soon parted! One would imagine it impossible, however, that any man could be so defective in intellect—so beside himself—as to snap at the bait that has been thrown out by this "firm" relative to the Exchequer and other American mines.

Camborne, July 25.

THE SECRET OF SUCCESS

THE SECRET OF SUCCESS.

SIR,-Having frequently noticed the question asked-Why do not investors place more money in home mines? My experience tel me it is the absence of honest management and legitimate mining from these causes I have lost thousands in good mines that would with proper management have been an honour to all connected with them. The following facts will show that honest management and judicious exploration not only ensures the necessary funds but ultimate success. The subject is brought to my mind forcibly this week by the news of the attainment of one of the three principal objects at East Chiverton Mine—the cutting of the lead in the 74 west—which have been looked forward to and worked for during the last seven years, under the able and judicious management of Captain R. Southey, aided by Mr. Granville Sharp as secretary. Well may the district around Truro feel proud of and thankful to Capt. Southey; had it not been for him that district would be far different to what it is. It may be asked, Why? I shall only give my experience, let others draw the moral. I had been a shareholder in East Chiverton for many years, and being tired of waiting and call paying (although I had it from good authority that "East Chiverton was sure to be as good a prize as West Chiverton") determined to go down and see with proper management have been an honour to all connected with I had it from goof authority that "East Chiverton was sure to be as good a prize as West Chiverton") determined to go down and see for myself (at this time West Chiverton shares sold for 54., and paid 12 per cent., while East Chiverton could be had for calls). We got to East Chiverton without being expected, and found Capt. Southey out of sight down in the mine, and when he came up met me at the top in his flannels, wet to the skin, hard at it. He had, and has, a stake in the mine and its success. We then went to West Chiverton, and found Cantain and could great the great had a god chiving great the state of stake in the mine and its success. We then went to West Chiverton, and found Captain —; quite a gentleman, kind, and obliging, with whom we spent a pleasant afternoon, with plenty of good things and wine at the account house—at the company's expense, to be sure. We were of the company, and had as much right as anyone else, but we drew our own conclusions on the way home, and have stuck to East Chiverton Mine till success has dawned upon us. All know the fate of West Chiverton, how it had its eyes picked out, and its life all but gone, till by the joint ability of Capt. Southey, Mr. Sharp, and and a few others, it was resuscitated, and is now in a fair way to permanent success. One other point, the clear way that the accounts are made out, and the readiness with which the books are placed before the shareholders; this has made the calls of East placed before the shareholders; this has made the calls of East Chiverton responded to the more quickly, as we can see how the money goes. Was such a course the rule among mines more capital would be forthcoming, and many mines I am in would not be now wasting a miserable existence, but be full of life and promise, like—

EAST CHIVERTON.

WEST BASSET.

-I am much pleased to see, from a letter signed "W." in last veek's Journal, that there is an improvement in the state of this week's Journal, that there is an improvement in the state of this mine, and that the current cost has been reduced. Although a bank debt of 25,000\(lambda\) is a great incumbus, the improvement referred to, if it is maintained, and the reduction of expenditure, may enable the committee to reduce that large debt gradually to extinction. I am sure that Mr. Heard is no enemy to mining; but, on the contrary, a friend. He is an enemy to all dark doings. What he wants is day-light proceedings in all matters of business. It is the dark deliges that business mineral correctly all the dark doings. doings that injure mining in Cornwall and elsewhere. Why should a company of shareholders in a mine be kept in ignorance of the state of their affairs? Did the committee intend to pay the bankers out of their own resources? I presume not; than why pledge the credit of the shareholders without their consent or knowledge? The proceeding is wrong, and I hope that another such will not occur. If West Basset can overcome their difficulties I shall be glad; but, with tin at 40L per ton, I am doubtful if such will be the

WEST BASSET MINE.

WEST BASSET MINE.

SIR,—I have just read the letter, signed "W.," in last week's Journal, with reference to the proceedings at West Basset, which have occupied considerable attention of late. I observe the hostile criticisms undertaken by your correspondent, "W.," on the person who has been prominent in this matter; and notice that "W." refers to him as "the gentleman, if we may so call him "—evidently implying that he is not one. Well, this so-called "gentleman" can take care of himself; but it may be well to inform your readers that his fellow-townsmen have selected him for 20 years past, without a single interval, to represent them in their local parliament—the Town Council—and that the highest honours in the power of the council to confer have been bestowed on him. So much for that side of "W.'s" case. side of "W.'s" case.

Now, let us see what this gentleman has done. According to his own statement, he had been an adventurer in West Basset for some years, but had never attended a meeting, resting on the honour and integrity of the committee of management, but he felt it his duty to be present at the recent meeting. What has he been the means of chicities. of eliciting:

-That the banking account had been overdrawn to the tune of 25,0000 by the committee without the authority of the adventurers.

2.—That the adventurers have been charged by this said committee 1001, a month—12001. a year—"banking charges" incurred

without their sanction.

3.—That the said banking charges of 1200l. a year have never been entered into the cost-book signed by the adventurers, but have been hidden from them.

-That the adventurers who have attended the meetings say that they were quite unaware of any such banking overdraft,
5.—That it has been discovered since the meeting that these said

anking charges of 1200*l*. a year have been charged to the adventurers in some cost-book, not signed by them, under the head of labour cost, &c., and that in the printed statements sent out to the adventurers from time to time these charges of 100*l*. a month are included under the head of "labour cost," and that this enormous overdraft of 25,000*l*. is never once referred to in the printed statements are at the adventurers' meetings. ments, nor at the adventurers' meetings,

That there has been an enormous expenditure going on for in West Basset, chiefly under the head of machinery, and that ars in West B this must have been erected chiefly under the supervision of the

That the gentleman who is the Engineer of this mine is also one of the three Committee-Men, and also the auditor of the mineso that he has acted in the threefold capacity, and has audited his own accounts, and signed them as such auditor, in the mode pointed out.

8.—That the adventurers were given to understand that although

the banking account had been overdrawn 25,000l, without the shareholders' knowledge—at any rate, that was the worst. Yet we now learn that some of the merchants' bills for considerable amounts are much overdue. What reliance can, therefore, be placed on such statements?

statements?

Now, Sir, if these allegations be true—and I challenge contradiction—I will leave you to say what you think of the writings of "W." He terms the "so-called gentleman" the unscrupulous wolf.

Probably he will have to answer for this statement. I say, on the contrary, that if adventurers properly looked into and audited their own accounts such irregularities as I have pointed out could not occur. But, Sir, the shareholders had a paid auditor, and were entitled to receive at his hands a proper audit of their affairs. Did

plied him with chares to sell. These matters, probably, may be they get this? I say—no. I have other matters in store, but I hold easily conjectured. Your correspondent seems to wonder at the them over for another occasion. The above may suffice for this week. A SHAREHOLDER,

MINING IN NORTH WALES.

-Having recently spent a few days in what is known as the Flintshire district, it may be some satisfaction to those of your readers who are interested in the lead mines in Denbighshire and Flintshire to know that although trade of all descriptions is extremely dull, the mines upon the whole are looking better, making tremely dull, the mines upon the whole are looking better, making larger returns, and more promising than for some time past. Minera at the last monthly sale sold 300 tons of lead and 160 tons of blende. The old mine throughout is still very rich, and likely to remain so for many years to come. The next mine of importance to the north-west is Bodidris. This mine is being developed in a most miner-like way. Some splendid leadstuff was coming up the eastern shaft when I was there, and large piles of rich ore upon the dressing-floors in the course of preparation, in addition to which there is a large parcel in the lead-house ready for market. I think there are few mines in the district which, so far as developed, promise greater success. At East Pant-du a good course of ore is now being wrought and good profit made, but as this mine is worked privately, it is difficult to get statistics. The Flintshire mines are still idle, although I am told a considerable portion of the capital required to erect the necessary pumping machinery, &c. is subscribed. I shall be anxious to see these mines re-opened, for I know for a fact that a grand course of ore has been discovered and only awaits being taken away, but in order to centend with water money must be forthcoming.

and only awaits being taken away, but in order to centend with water money must be forthcoming.

At Denbighshire Mines the prospects are encouraging, and although they have not yet met with that success in the eastern part of the mine that is expected, it may come off any day. At North Hendre the course of ore continues, and the monthly return of lead is 100 tons. The Halkin Drainage Scheme is being prosecuted with vigour; this scheme as it proceeds will be the means of re-opening a number of rich mines, including Rhosesmor, in addition to which it will act as a cross-cut through the valuable piece of mineral ground lying between Pant-y-Go and Moel-y-gaer. St. Patrick is the next mine to the north, and in which the underground workings have been prosecuted with great energy for the past three years. have been prosecuted with great energy for the past three years, and it is now reported that success has at last been met with, but up to the present I have learned no particulars further than that the discovery has been made at the 120. I have always had the highest opinion of this property, and believed its ultimate success was only a matter of time. I can only say the mine has been honestly worked a matter of time. I can only say the mine has been nonestly worked throughout, and trust the company may be rewarded with a good dividend mine. The next mine to the north of this now working is the Gorsedd and Merllyn, in which mine, some seven or eight months since, so grand a discovery of lead was made; this discovery has not only continued, but improved, and the result is regular returns of 50 tons monthly, which I am told leaves a net profit of 5000. As the course of ore has been proved to be 60 yards in length, and the levels, both east and west, rich in the present ends, this may fairly be looked upon as a dividend mine, and as an absolute sefairly be looked upon as a dividend mine, and as an absolute se-curity in which to invest capital. It is reported that the Holway Mines (near the last-mentioned mine) are to be re-opened and worked upon an extensive scale by an influential company. These mines formerly returned, it is stated, as much as 600 tons of lead monthly, and it is also asserted that they will pay good profits with the present price of lead when unwatered. I will leave further remarks VIATOR. upon this and other mines for a future letter.

ROMAN GRAVELS, AND LEADHILLS.

SIR,—I hear that at the late general meeting of the Tankerville Company it was proposed to remove Mr. R. Wilson from the office of director, which was not carried simply and only through the necessary formalities not having been observed, the Chairman (Mr. R. Wilson himself) declining to allow the resolution to be put. At the same meeting another resolution was unanimously carried, to the effect that a covidial vate of themks he given to the discourse see effect that a cordial vote of thanks be given to the directors, except Mr. R. Wilson. Is not this gentleman also a director of the Roman Gravels and the Leadhills Companies? If so, might it not be desirable for the shareholders in these undertakings to consider the same question? Verb. sap.—July 25.

BEDFORD UNITED MINE.

SIR,—It is a matter of some surprise to those who have been in the habit of reading the frequent communications of the secretary of this mine to find that the company, after the recent unexpected and heavy calls, should be called upon to stand the further annoying expense of a change of system. Whatever may be thought of the cost-book principle, it is certain that a good committee rendering its services gratuitously for the benefit of the shareholders is infinitely preferable to an expensive board of directors, who oftentimes buy in, or are qualified by their friends, for the purpose of grasping the fees which under the old system are all saved. In a mine where economy is stretched to such an extent as to cause absolute financial difficulties to the old staff of agents in order to elevate a new overlooker, this contemplated establishment of an expensive board of directors is certainly, to say the least, a very strange kind of proceeding. Mines governed by paid boards of directors and secretaries, who habitually deal in shares, are unfortunately oftentimes worked in London instead of in the country. -It is a matter of some surprise to those who have been in nately oftentimes worked in London instead of in the country.

July 26. OBSERVER.

PROSPECTS IN THE BUCKFASTLEIGH DISTRICT.

SIR,-It is at all times pleasing to communicate intelligence calculated to lead to beneficial results as regards the parties immediately interested, and more particularly when the public must participate. I have for a considerable time past advocated the development of new or unwrought ground as being the only thing to revive Devonshire mining. There has been recently made a discovery of copper ore such as not been witnessed for many years in a mine called New Brookwood, worked in a very unpretentious manner by two or three shareholders, who are to reap the reward of their small but judicious outlay. This mine is situate to the south-east of Wheal Emma and the Old Brookwood Mnaes, two of the richest in Devonshire, excepting Wheal Maria or Devon Great Consols, the latter on an outlay of about 1l. per share sold in the market for nearly 600l., and paid profits close upon 1,192,000l. New Brookwood is situated in this mineral district, and having the same lodes and cross-courses which were found in the mines in question cannot fail to become equally as rich and as good a copper mine as ever was found in Devon, and it is confidently relied on that only an extension of development is required to ensure the realisation of a copper mine of very great value.—Ashburton, fully 23.——— A Subscriber. value. - Ashburton, July 23.

NORTH LAXEY MINE.

Sir, -Will you allow me space in the Journal to ask the directors and agents of North Laxey to reconcile the following weekly reports of the mine with Mr. Rowe's last report? On June 27 Mr. Rowe writes: "I have been through the mine to-day, and am not able to report anything special from that given in last week's report. The lode in the shaft sinking below the 136 is quite 3 ft. wide, and of an open and loose nature, and containing lead in the open or cavitous parts of the lode, which has to be saved from the washings." On July 3 Mr. Sowden writes: "In the shaft sinking below the 136 the lode maintains its size (3 ft. wide), and producing saving stuff for the washings." On July 11 Mr. Sowden again writes: "In the sinking of the north shaft below the 136 the lode is 3 ft. wide, and improving for lead. There is soft sugar spar coming into the lode. North to reconcile the following weekly improving for lead. There is soft sugar spar coming into the lode, and we have this week broken the best stones of lead that I have seen in this sinking."

JULY 2

holders have in their agents' reports? If the sinking of the north shaft was discontinued for a third of the month, why did the agents report that it was being sunk week by week? I do hope my brother shareholders will insist upon an explanation, and that the directors will do their duty in this matter. Well may confidence in agents' reports be shaken if such glaring inconsistencies are allowed by the directors. So far the directors and agents are the only parties who have hepefied by the mine and I for no think it. allowed by the directors. So far the directors and agents are the only parties who have benefited by the mine, and I for one think it is high time the shareholders should rouse themselves and look a little closer into these matters. Had the shareholders in Glyn, Van Consols, Penstruthal, and Cathedral done so they would not have been in the plight they are now. Two agents for a small mine like North Laxey seem to me to be an unnecessary expense, and the sooner one or other of the two is dispensed with the better.

A SHAREHOLDER IN NORTH LAXEY.

NEW CONSOLS.

SIR.—No news ever reached me of a more surprising kind than that New Consols was insolvent. I doubt if any mine in the county has been more shamefully handled than this has been by those who caused it to be brought into liquidation. Why did they do it? It would almost seem that they might cheat the creditors; or was it that they might come into a good property cheap? I find that they have been offering the labourers 10s. in the pound, and I suppose they wish the other creditors to come off with less. The creditors should place the mine in Chancery in the event of not receiving their claims in full, because it is said that 300% per month was charged for interest on money advanced on shares, and that 10,000%. charged for interest on money advanced on shares, and that 10,000., more or less, was charged for the mine. A Chancery investigation would doubtless elicit such an amount of selfishness as is rarely to be met with. How long the liquidation is to take I know not, for no intimation of a close has been made.

Calstock, July 24.

UNITY WOOD.

SIR,—Being in the neighbourhood of Unity Wood on Thursday last, I was informed that a meeting of the adventurers was to be held that day, and that it was likely it would be determined to abandon the works. I took the opportunity of attending, and it was, indeed, resolved to stop and to sell the materials. This is another instance of the effect of the low price of tin, and I suppose that others will follow ere long. I have been informed that the Unity Wood water will find its way into West Poldice, where the engine is very small—only just sufficient for its own water. So that West Poldice Company must either erect additional steam-power, stop the mine, or take Unity Wood engine and keep it at work. The best course would be to consolidate the two setts, and call them "West Poldice Consols."—July 21. TOURIST. P.S.—Since I wrote the above I have seen a letter from Mr. Hawke, a West Poldice shareholder, in which he says the Unity water will not affect West Poldice. I should be pleased to find it so, but I am doubtful. -Being in the neighbourhood of Unity Wood on Thursday

BRIXHAM CAVERN.

SIR,—I have never seen this cavern, although I have visited Brixham, from which the name is derived. This cavern has been notorious during the last few years from the circumstance that the flints found in it were alleged to be flint implements—knives, &c.—of human workmanship, and regarded as evidence of the great antiquity of man. So much importance was attached to the discovery of these flints that in July 1853 a committee was formed for a of these flints that in July, 1858, a committee was formed for exploring the cavern. This committee was promoted by the Royal and Geological Societies of London, and a fund was raised to defray and Geological Societies of London, and a fund was raised to defray the expenses of the exploration, which was carried out by a local sub-committee, of which Mr. Pengelly, F.R.S., is said to have been the most laborious member and personal inspector of the whole proceedings. The work lasted 12 months, but it was not until May 16, 1872, that the report of the committee was presented to the Royal Society, nor until late in 1874 that the exhumed flints were deposited (at the Christy Museum, London) for public inspection, so that for 15 years the public has had no opportunity of examining the specimens, but the committee quickly decided that they were "flint knives, relies of man, and manufactured tools." Mr. Peugelly, the late Sir Charles Lyell, and other eminent geologists were unanimous in adopting those flints as furnishing incontestible evidence of the contemporaneous existence of man with the extinct mammalia of the Drift period, and it was said that the exploration of the Brixham Cavern "produced an entire revolution

extinct mammalia of the Drift period, and it was said that the exploration of the Brixham Cavern "produced an entire revolution of opinions on the antiquity of man."

In October, 1874, Mr. N. Whitley, C.E., of Truro, a lover of all truth, visited the cavern, and afterwards drew up a paper entitled "A Critical Examination of the Flints from Brixham Cavern, said to be 'Knives and Human Implements." This paper was read before the members of the Victoria Institute, and Philosophical Society of Great Britain, at 10, Adelphi-terrace. Strand, London, and subsequently reprinted from the Journal of that society, a copy of which I have now before me, with a report of the discussion which followed the reading. The gentlemen who spoke on the subject agreed generally with Mr. Whitley's views, being satisfied that the geologists who believed in the "knives and human implements" rested their faith on a sandy foundation. I cannot do better than quote some of the concluding paragraphs of Mr. Whitley's cleture to exhibit the errors of the savants who ignorantly sanctioned that belief:—

to exhibit the errors of the savants who ignorantly sanctioned that belief:—

"I am aware of the weight of authority which must be attached to the high names whose opiaions I have here combated, but I have at least this vantage ground that I stand on well-ascertained facts, and on these alone, and dogmatic assertions can no longer be considered a reply to the inexorable logic of facts, the only certain foundation on which to build scientific truth. " " I have now shown that the so-called 'thirty-six rude fint implements of indisputable human workmanship' are for the greatest part small undefinable pieces of rabble flint, mixed with a few imperfect subsoil flakes. " " That the marks of use or secondary chipping, so strongly asserted to be found on the edges of the flints, and so clearly shown on the woodcut, Fig. 410 in 'Ancient Stone Implements,' are not to be found in the flint itself. " " That the flint described in 'Ancient Stone Implements' as a remarkably symmetrical scraper, and said to be found in the cavern, was not found by the committee of exploration, is not one with the flints in the Museum, and that there is no evidence to show that it is a cavern specimen. " " That the caver of a very perfect flint knife exhibited among other relies in the cavern, and sold to visitors as a cast of a cavern specimen, is a deception. " " That the caver of a very perfect flint knife exhibited among other relies in the caver, and sold to visitors as a cast of a cavern specimen, is a deception. " " That the cave of a very perfect flint knife exhibited among other relies in the cavern and sold to visitors as a cast of a cavern specimen, is a deception. " " That the dearcoil bed contains no charcoal; that slate has been mistaken for flint, and flint for bone; and that the description given of the "whole hind leg of a cave bear"—the most famous specimen of the cavern—has been found to be so loaded with erroneous facts and false conclusions that its evidence has been withdrawn and abandoned."

It is astonishing that the ge

garded as men of high attainments in science should have so readily concluded that the flints were "knives" and "human implements," and I think that Mr. Whitley's expose of their errors will have the and I think that Mr. Whitley's expose of their errors will have the effect of making them more cautious in their future investigations, inducing them to reason before coming to conclusions. In thinking of the labours of the committee, the following old sayings have come to my remembrance:—"Much ado about nothing," and "The mountain laboured and brought forth a mouse."

I see from a catalogue subjoined to Mr. Whitley's lecture of the papers read before the members of the Victoria Institute that the following were furnished by him—"The Pa'molithic Age Examined."
"On the Brixham Cavern. and its Testimony to the Antiquity of Man examined." These two papers were anterior to that which is

"On the Brixham Cavern, and its Testimony to the Antiquity of Man examined." These two papers were anterior to that which is Man examine the subject of this letter.

Mr. Whitley is an honorary secretary of the Royal Institution of Cornwall, of which he has been a member about 40 years, and during that long period he has been a diligent student of what the late Mr. N. Ennor called "Nature's secrets." He has devoted a large amount of time and money to and in the pursuit of geological science, and this merely from a love of it. It has been to him what people call a "hobby." His investigations have not been confined to the Region but he had been appropriately to the Region of the confined to the Region but he had been appropriately the confined to the Region but he was not read to the Region of the region people call a "hobby." His investigations have not been confined to the British Isles, but have extended to the Continent, so that in reasoning upon a subject in that favourite science he can fetch evidences from abroad as well as from home. In replying to the discussion on his paper on the Flints from Brixham Cavernhe said,
"Mr. Row has spoken of the immense number of flints found in the
South Downs, and I can fully confirm his statements. On Cisabury Hill, north of Worthing, you may shovel up the split flin's and flakes

by cart-loads, and from thence to Eastbourne they are abundant everywhere on the surface, but more especially on the high ground, and where the down land has recently been brought into cultivation they are turned up from the subsoil to the surface by the plough. On the chalk high lands of Central France the flakes and the so-called tools are even more numerous, especially in the province of Poiton and Perigord; and what is still more remarkable, they occur in similar quantities in wide-spread deserts where man. they occur in similar quantities in wide-spread deserts, where man, savage or civilised, never could have made his permanent home."

A more complete demolition of a hastily-formed theory cannot be conceived than that made by Mr. Whitley of this knife and implement dogma. Mr. Whitley has contributed scores of essays to the Royal Institute of Cornwall, besides those furnished to other scientific societies, which will have placed him in the list of advanced geologists.—Truro, July 23.

R. Symons.

MYSTERIOUS DISAPPEARANCE.

SIR,-Some years ago a letter in the Journal referred to the disappearance of a man, aged about 40, from a village in Gwennap in October, 1846. He wentto Redruth on a market or fair day, stopped at an inn, where he drank two or three glasses of grog with some friends, who left him there, but never saw him again. It was said at an nn, where he drank two or three glasses of grog with some friends, who left him there, but never saw him again. It was said that he was seen by a woman, near Wheal Cupid, on his way home, and that it was probable he fell or was thrown into the engine-shaft in that mine. The mine was drained a few years afterwards, and no remains were found. Then it was said that he must have fallen into one of the shafts in Wheal Dannsel. That mine was also afterwards drained as deep as he could have fallen, and no remains were found. It was then suggested that because his probable insention for the extraction of gas from water was likely to superinvention for the extraction of gas from water was likely to super-sede the gas extracted from coal, the manager of the gasworks at Redruth put him into an oven, and consumed him. I knew him well, and feel sure that he would not have committed suicide; he loved life too well for that; there can, therefore, be no other conclusion than that he was murdered for the sake of what property he had about him. A friend tells me that he saw him change a 5t. note that he might lend a sovereign, so he had about 4t. in gold, and he had also a gold watch and chain. He was known to have resorted to a house of ill fame in Redruth, and the discovery of human bones on the premises should be a few to be premises the same than the premises understanding the same and the same on the premises about 15 or 20 years ago, when the premises under-went alteration, lead us to suppose the women disposed of the body there after robbing the man of his watch, chain, and money. An investigation succeeded the discovery of the bones, but of course no proof could be adduced to establish the guilt of anyone after the lapse of so many years.—July 25.

Meetings of Bublic Companies.

TANKERVILLE MINING COMPANY.

The annual meeting of shareholders was held at the account-house at the mine, rear Minsterley, Salop, on Thursday, the 19th inst., as briefly stated in last week's Journal,
Mr. Robert Wilson presided.

briefly stated in last week's Journal,

Mr. A. H. MURCHISON (the London manager and secretary) read
the notice convening the meeting, and the directors' and agent's report, which with the accounts were taken as read. The following
are the reports:—

Your directors have circulated the balance-sheet, and a full report from Captain
Waters, both of which will have informed you of the work done in the past year,
and the position and prospects of the mine. You will observe that for the twelve
months ending April 20 last 1303 tons of lead ore were sold for 19,4514. Is. 3d.,
being an average of 14. 18s. 6d. per ton, against 1329 tons for 27,4084. 18s. 4d., or
15d. 1s. 2d. per ton in the previous 12 months. The quantity and price of ore sold
being thus less, your directors were able to divide only 9000t., against 12,000d. in
the previous year. Your directors were able to divide only 9000t., against 12,000d. in
the previous year. Your directors were able to divide only 9000t., against 12,000d. in
the previous year. Your directors were able to divide only 9000t., against 12,000d. in
the previous year. Your directors were able to divide only 9000t., against 12,000d. in
the previous year. Your directors were able to divide only 9000t., against 12,000d. in
the previous year. And the former samplings of 150 tons per month
will soon be resumed, from which he hopes regular dividends will be made. Your
directors have received several uctices of motion for the ordinary and extraordinary meeting called for to day. Among these is one for holding all the annual
meetings at the mine. On this point they would remark that there are 330 shareholders in the company, and of these 77 reside in Shropshire and at Wolverhampton and neighbourhood, holding abour one-fourth of the shares. To the remaining
300 sharesholders, holding the other three-fourths of the shares, London would be
a more convenient meeting place, and your directors recommend that the annual
meetings be held alternately at the mine and in London.

Notices have also b

One of your directors—Mr. Peter Watson—goes out of office at this meeting, and offers himself for re election, as do the auditors, Messrs. Brandt, Etansiled and Co., public accountants.

July 3.—Watson's engine-shaft is now 192 fms. below the boat level, and 224½ fms. from surface. The pump is fixed, rods in place, shaft divided and cased, and machine kibble winding from the bottom of the mine. We have driven the 192 cross-cut south towards the lode 2 fms., and calculate to get fully into it in 6 or 7 feet further driving. No stone will be left unturned to get into the great lode this week. The 130, west of shaft, is in a lode 4 ft. wide, worth at present 2 tons per fathom. Although the lode has fallen off in value in this end the last day or two, still the indications point to our near approach to a cavity, west of which we may expect a great improvement in the value of the lode. Supposing the dip of the ore from the 132 downwards to be uniform, the said 180 end is west to where the great run of ore seen above should come in, and the present end being very wet is fair evidence that our calculations as to the west bunch are about to be verified.

The winze, 5½ fms. behind the said end, is down 4½ fms.: the lode throughout is worth 4 tons per fathom. The 190 east, now over 15 fms. from shaft, continues to go forward in a lode 6 to 7 ft. wide, carrying two ore courses, the hanging part being worth 3 tons, and the footwall portion I to nper fathom. This end is laying open rich ore ground for stopes in back and bottom of the level. The winze in bottom of the said level, 10 fms. east of shaft, is down 2 fms. the lode throughout is worth quite 4 tons per fathom. Seeing that over 35 fathoms in length has now been opened in ore ground along this level, and looking at the lode in bottom of the winze east, and of that west of shaft, is down 2 fms. the lode throughout is worth 3 tons, and the footwall portion to worth winze in bottom of the 192, east of shaft, is worth 3 tons per fathom. The stope in same level, west of N

far enough to catch the main bunch of ors. The winze below the 110 west of smart, on south lode, is worth 2 tons per fathom.

The 92 cross-cut, north-west towards old mine, is 2½ ft, into what appears to be a great lode, composed of carbonate of lime and good stones of lead ore; the value improves as the cross cut advances. This is evidently one of the great lodes, if not the great lode, of the old mine, and our intention is to cut it through to the full width, and then go east on its course to the great cavity and ore ground known to exist in the bottom of the 74, about 15 fathoms east of the old engine shaft. It is impossible at present to calculate the exact dip of the cavity and run of ore ground, but 10 fathoms east of the present 92 cross-cut is likely to be sufficient to meet with the object in view.

ground, but 10 fathoms east of the present 92 cross-out is likely to be sufficient to meet with the object in view. We feel persuaded that when this part of the old mine is properly laid open by the said 92 an important addition to the resources of the mine will be the result. The last annual report made special reference to this point, and it was hoped that we should long ago have been able to go down in the cavity and work the ore ground below the 74, and thus add to the returns of the mine. We have cleared out the level, and entered upon the work, but were soon driven out by a great in-flux of water, the result of heavy rains, which, as you know, lasted four months, and nothing but a steam-engine for pumping would have brought us out of the difficulty: This much by way of explanation. The stope in the 80 couth of shaft is worth 25 cwts, per fathom. In the 42, east of old engine-shaft in the old mine, we are cross-cutting south towards four side lodes known to exist there, and upon which important discoveries may be made. We have ample pumping and winding power, and it is our intention to explore the mine lengthways and side-wiys to a greater extent than has ever been done before.

deways to a greater extent than has ever been done before.

Ground sunx, driven, and stoped from February, 1870, to May 1877, as follows:

Sinking shafts, 192 fms. 2 ft. 10 in.; winzes, 150 fms. 5 ft.; levels, 685 fm. 1 ft.; level stopes, 2650 fms. 5 ft. 2 in.: total fathoms, 3690 fms. 2 ft...

Total sales to May, 1877, 10,990 tons 12 owts. 0 qrs., realising 154,893, 19a. Proba made and paid to date of present balance-sheet, 58,200/. The mine is in good work to winze we shall resume our usual sampling of 150 tons a month, and that from that time forward regular dividends will be the rule and not the ception.—ARTHUR WATERS.

ing order, and when the lode is out into and explored at the 19th from shift we to winze we shall resume our usual sampling of 150 tons a month, and I wa ception.—ARTHUR WATERS.

The following supplemental report from Capt. A. Waters, dated could be supply that from that time forward regular dividends will be the rule and not the service of the country of the coun

mittee of the Wolverhampton shareholders—Messrs. Cooper, Shaw, Greensill, and Cremonini—some time back sent in a requisition asking the directors to convene a special meeting, to consider the advisability of increasing the number of directors. Although they were not bound to do so, one-fifth of the shareholders not having signed the requisition, the directors decided to call the meeting after the ordinary meeting that day, and notices to that effect had been sent out on the 4th inst. The Wolverhampton committes then sent out a circular referring to the non-payment of a dividend, with which he agreed, and also as to his selling of shares. When he joined the board he held 100 shares, and he now held nearly double that number. He (the Chairman) still held nearly double the number of shares he had when he joined the board, and he denied the right of anybody to call this into question. He thought it was rather sharp practice to send this circular out to get the start of the directors, and to send out proxies, one of which had been returned signed in his favour.

signed in his favour.

Mr. Greensill admitted the sharp practice.

The CHAIRMAN said the resolution which would be proposed was that in accordance with clause 8 of the Articles of Association—he (the Chairman) should be removed from the direction, and that Mr. E. D. Shaw should be elected in his stead. In the director's report the names of four candidates from Wolverhampton for seats on the board were given, but the directors recommended two of them only and he, not wishing to make any selection, had refused to sign the report. He wished to say something with regard to the mine. The report. He wished to say something with regard to the mine. The Wolverhampton committee said they were not satisfied with the recent results of the company's operations, nor was he himself. At the previous annual meeting he congratulated the shareholders on the position of the mine, for at that time Capt. Waters believed he would be getting good results from the old mine as well as the returns from the new part of the mine, but the returns had since fallen off, as they had to sink through hard ground. Formerly the leads went down with the sheft where it was compatible at these lode went down with the shaft, where it was comatable at three points, but he had had to sink in hard ground, and the returns had fallen off; but he supposed Capt. Waters would explain that though

they had not the money in reserve they certainly had the ore.

Mr. EDRIDGE asked to which resolutions the directors referreds being irregular. They were, he believed, discussing the report st

The CHAIRMAN did not admit that it was the directors' report. Mr. PETER WATSON stated most distinctly and most emphatically that it was the directors' report, for although one of the directors-

the Chairman—refused to sign it, it was still the report of the board.

Mr. EDRIDGE repeated his question as to the irregularity of the notices of motion.—The CHAIRMAN replied that prior to any special meeting the shareholders should have ten clear days notice, and this had not been possible in the time allowed by the Wolverhampton committee. ampton committee.

The Secretary said the notices of resolutions on'y arrived on the

Saturday morning, and it was impossible to get circulars printed so that the shareholders should have them on Monday, so as to give them the legal notice. A special meeting could only be called at the request of one-fifth of the registered shareholders, holding onefourth of the capital of the company. Besides, there was no requisition or request of any kind for a special meeting, only notices of resolutions to be proposed at the meetings called, which were not

in order, and invalid ab initio.

In the course of a discussion on this point, the Chairman stated that the notice as to the directors was quite legal, as that referred to business which could be transacted at an ordinary meeting, but the other resolutions could not legally be put unless a duly constituted special meeting were held for the purpose.

Mr. CREMONINI hoped the Chairman would not in any way put

a stumbling block in the way of what his friends and himself considered a fair request. If he would fall in with their views he was willing to forego an unpleasant task in making remarks which

would probably be disagreeable.

The CHAIRMAN said shareholders could say what they pleased. He had been advised not to come to the me-ting, as he would be insulted and annoyed, but he was quite willing to be insulted and annoyed as much as the shareholders liked, and he would indemnify

the Mining Journal for publishing all that to k place.

A SHAREHOLDER said they only wanted facts. They had not come there to insult anyone.

Mr. EDRIDGE asked for the name of the Chairman's informant?
The CHAIRMAN said he had not heard any name, but Mr. Cremonini had himself spoken of saying disagreeable things.

Mr. EDRIDGE thought the Chairman should impute the remark to Mr. Cremonini, and not to the Wolverhampton shareholders as body. —Mr. Cremonini said if the Chairman acceeded to the wishes of the shareholders, of which he was aware, everything would pass off agreeably. He was most anxious that there should be manimit at the meeting, and that no disagreeable remarks would have to be made. made. The CHAIRMAN remarked that he only wished the business

to be conducted in a legal manner.

Mr. EDRIDGE moved the adjournment of the meeting for four weeks.—Mr. GREENSILL having seconded the motion, the CHAIR-MAN pointed out that if a meeting were not legal, no adjournment

Mr. SOUTH
the Wolverh
Mr. PETER
I do not wis
other, but I v
tion the desir
quisition is a
rectors, and I rectors, and ing a propos hampton sha which we have of Association sity, seeing to acquiesing an extraordistations of the state of the an extraordi-business of ti ali to sever the business of ti if you think you can do a aimply adjou you are to-day and the control of the control of the your are to-day ng another ing another journ the marvalid. What do that, as a are on the or report, and p pass the acc. with regard ness being d you have to one meeting would recounine, to all mine, to all Mr. EDRII the report. they are pas the account in future th those of the ordinary co-sales of ore Gravels. I mm for the of one each the director gested that that for the We should year. Ti ways and o Mr. P. W with regard Waters wil development dividend C tend with i they have a done; but although w the ore is i Capt. W. Mr. WAT port is sen not fear it and longes commence get 150 to the mine a ago since have given have now analysis of that there number o that there stated bef conducted and open ther, I wi better if yearly me weight of holders. cles airea names of

Wallace. Mr. Coop being the of you ge we though the mean the irreg accordin If you w that is c ago, as v will tell ing, clos cross-cu

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Mr. SOUTHGATE also pointed out that the resolution forwarded by

Mr. SOUTHGATE also pointed out that the resolution forwarded by the Wolverhampton shareholders could not legally be put.

Mr. PETER WATSON: Allow me to call your attention to one fact. Mr. PETER WATSON: Allow me to call your attention to one fact. Mr. PETER WATSON: Allow me to call your attention to one fact. Mr. PETER WATSON: Allow me to call your attention to one fact. Mr. PETER WATSON: Allow me to call your attention to one fact. Mr. PETER WATSON: Allow me to call your attention to one way or the intention of the wolver of th

rays and other companies, and you would not then have to discount

ways and other companies, and you would not then have to discount the ore bills at all.

Mr. P. WATSON: Well now, gentlemen, I will say a few words with regard to the accounts. Let me tell you this, and as Captain Waters will tell you, he has had a great deal to contend with in the derelopment of the mine. Previous to the declaration of the last dividend Capt. Waters will tell you he had great difficulties to contend with in connection with the shaft. The directors regret that they have not been able to do more in the past year than they have done; but the Chairman has stated to you somewhat correctly that done; but the Chairman has stated to you somewhat correctly that although we have fallen back in our returns for the last few months, there is in the mine, and as we have got to the bottom of the 192,

Ihope we shall intersect the lode.

Capt. WATERS: We have intersected it.

Mr. WATERS: Well, then we shall cut through it before this report is sent out, and shareholders will know the value of it. I do not fear it will be valuable, because the bottom of the 180 is the best and longest course of ore we have had in the mine ever since we have commenced it. I do hope with Capt. Waters that we shall shortly get 150 tons of ore a month. With regard to the development of the mine and the accounts, which this embraces, it is seven years ago since I cut the first sod for the engine-shaft, and since that we have given between 50,000% and 60,000% to the shareholders. You have now as good or a better mine than we had then. As to the analysis of shareholders given by the secretary, I am bound to admit that there was some reason in what a shareholder asked as to the number of shareholders in London—it is right and fair to tell you that there are not very many shareholders in London, and I have I hope we shall intersect the lode. number of shareholders in London—it is right and fair to tell you that there are not very many shareholders in London, and I have stated before that the proper place to hold meetings is at the mine. (Hear, hear.) I still adhere to that, not only in this mine, but in others. You have your manager here, and you see how things are conducted; and every shareholder has a right to speak fearlessly and openly whether he has I or 500 shares—(hear, hear)—and, further, i will state, as I said to Mr. Greame, that I think it would be better if we had the appeal meeting here on the mine and a halfbetter if we had the annual meeting here on the mine, and a half-yearly meeting in London. (Hear, hear.) It would take a great weight off the directors, and would give great confidence to the shareweight off the directors, and would give great confidence to the shareholders. With regard to increasing the number of directors, the Articles already provide that the number should be seven; we have the names of Messrs. Cooper, Shaw, Greensill, Cremonini, Brooks, and Wallace. There are any construction of the second of the seven great respect for all these gentlemen, but taking Mr. Gooper and Mr. Shaw, it was proposed that these two gentlemen, being the largest shareholders, and representing a very large section of you gentlemen in and round Wolverhampton, should be nominated as directors. There is no shape of feeling in nominating these two gentlemen, but as they happened to be the largest shareholders we thought it desirable to select them, and we thought it would be the means of throwing oil on the troubled waters. With regard to the irregularity of the notices sent from Wolverhampton, we have had a long discussion, but it could not be altered. You must go according to the Act of Parliament and the Articles of Association. If you want a special meeting at any time to do anything you like according to the Act of Parliament and the Articles of Association. If you want a special meeting at any time to do anything you like you must call it legally. I hope you will consider that so far as that is concerned it is better to proceed with the business of the day. The extraordinary meeting is another matter. Reverting to the mine, I have greater confidence in it than I had two or three years ago, as we have now got down to a great depth. Captain Waters will tell you that there are six or seven lodes, comparatively speaking, close by, and it is a matter of anxiety to the directors that cross-cuts should go out to intersect the several lodes, and I believe in the next twelve months we shall have a very different mine to what we have to-day—as good as we have now got it. And although

In the next twelve months we shall have a very different mine to what we have to-day—as good as we have now got it. And although shareholders may be disappointed at the price of the shares, of which we cannot take notice at a meeting of shareholders. I believe they are, instead of being worth 7t. a share, intrinsically worth double that price at least. I will, therefore, move that the reports and accounts now submitted be passed and adopted, and printed and circulated amongst the shareholders. (Hear, hear.)

Mr. York: To save time, gentlemen, I beg to second it.

The CHAIRMAN: Before it is put to the meeting there is one thing I have to say. I have to say. The CHAIRMAN: Before it is put to the meeting there is one thing I have to say. I have heard various rumours with respect to me, but I shall not take much notice of them, not more than I take of anonymous letters in the papers. I am here, and if anybody has any complaint to make I can answer them in person.

Mr. CREMONINI: Well, is it true that you have sold so many shares this last 12 months?

The CHAIRMAN: I have and all the same than I have and all there.

shares this last 12 months?

The CHAIRMAN: I have; and allow me to make this remark, that I have a large interest in mining, and I made no secret that I did not intend to put any more money into mining. I went largely into another mine, and I sold afterwards some of my shares in this mine to recoup myself for the money I had put into that mine.

Mr. CREMONINI: Have the directors approved of your selling your shares? It is important for us to know this. If they approved of your having sold these shares I should like them to say yes or no. A Shareholder: That is quite a private matter.

Mr. BROOKS: The directors should not answer such a question without discussing amongst themselves.

Mr. CREMONINI: I am here to represent a body of shareholders which, fortunately for this company, has had the courage to come

in and buy up these shares. You must recollect that it is the Chairman of the company. Supposing you were Chairman of a bank, or any other company, and shareholders were to find the chairman of the company, and shareholders were to find the chairman of the company selling a large number of his shares, I appeal to you as sensible men of business if all the rest of the shareholders would not be intimidated to throw shares away. (Hear, hear.) Now, that is the sole cause that has brought the Wolverhampton shareholders to take the matter earnestly in hand, to see why and wherefore this large number of shares was thrown into the market.

The CHARMAN, They were not thrown into the market.

The CHAIRMAN: They were not thrown into the market.

The CHAIRMAN: They were not thrown into the market.

Mr. CHEMONINI: No; but to throw off the idea that they were thrown on the market they were transferred to a third party. I ask is that the conduct of the chairman of any company whilst he occupies that position? Now, gentlemen, I say this with reluctance, that the co-directors were in duty bound to call upon you to resign your office under the circumstance of selling your shares. (Hear, hear.) I do not wish to use one expression offensively, but I am here as a man of business to express my feeling. This matter has been duly considered and unanimously adopted, that if we are to have this company conducted by men of business and men of honour such things should not take place again. I hope what feeling I express here will not be taken as in any way envious of your position. It is not the first time I have had the pleasure of being here, and I have no selfish motives in the matter. I appeal to Mr. Peter Watson, a gentleman of great ability, tact, and experience, to say that whatever I have stated here before was from any ill-feeling to any gentleman, but for the sole good of myself and my co-shareholders. Mr. Cremonini then reiterated his remarks with respect holders. Mr. Cremonini then reiterated his remarks with respect to the Chairman having sold part of his shares, remarking that he had every reason to believe that the mine would be very successful if properly managed.

if properly managed.

The CHAIRMAN maintained his perfect right to sell his shares so long as he kept a number sufficient to qualify him to a seat at the board, a number which his present holding exceeded.

The CHAIRMAN, in reply to a question, said he might have given his opinion that the mine was poorer than it had been, a remark which elicited from Capt. Waters and Mr. York an emphatic statement of the increased value of the mine, Capt. Waters adding that the mine was worth 50 per cent, more than it was two years ago.

The CHAIRMAN explained that he did not refer to the intrinsic value of the mine, but to the financial position of the company and the returns.

the returns.

wanter of the mine, but to the mancial position of the company and the returns.

Mr. Redman recalled the meeting to a consideration of the report and accounts, which was the question before the meeting, and moved as an amendment that the report should be adopted, except the following clause:—"Your directors recommend that if the shareholders desire to increase their numbers Mr. William Cooper and Mr. Edward Dethick Shaw be elected, they being the two largest shareholders proposed in the notices received." He did not think the shareholders should bind themselves to any such recommendation. While the Wolverhampton committee were very loud in their denunciation of trickery and jobbery he certainly thought they might have acted more fairly and more honestly by sending out their circulars to all the shareholders, instead of to a select few. He thought the directors should have been more cautious before adding their weight to the nominations of any clique of shareholders who came forward purely in their own interests.

The CHAIRMAN seconded the amendment, whereupon Mr. WATSON said if the amendment were pressed he would withdraw his original

The CHAIRMAN seconded the amendment, whereupon Mr. WATSON said if the amendment were pressed he would withdraw his original proposition to adopt the report and accounts.

Mr. GREENSILL said the circulars had been sent to all the voting shareholders (those having not less than 10 shares), except to the directors and their personal friends.—Ultimately the amendment was withdrawn, and the reports and accounts were unanimously adopted, as proposed by Mr. Peter Watson.

Mr. W. COOPER: I shall be very happy to propose the re-election of Mr. Peter Watson. I have not had the pleasure of meeting Mr. Watson until to-day, but I have heard him much spoken of in London, and from what I have seen of him to-day I think him eminently qualified for the position of a director of this company. I believe in Mr. Watson we have the right man in the right place. (Cheers.)——Mr. Yorke: I rise with a great deal of pleasure to second the resolution now proposed by Mr. Cooper, for a more eminently suitable man than Mr. Watson we could not have. He has been connected with mining from his childhood, and, excepting our captain, he knows more about mining than anybody here—and not only mining, but everything connected with it. It is, therefore, with considerable pleasure that I second the proposition to re-elect

captain, he knows more about mining than anybody here—and not only mining, but everything connected with it. It is, therefore, with considerable pleasure that I second the proposition to re-elect him. (Hear, hear.)——The proposition was carried unanimously.

Mr. WATSON in returning thanks said he had always taken a deep interest in the company, as his co-directors and Capt. Waters would state, and nobody was more anxious than himself to see it crowned with success. As to the value of the property, he sincerely believed with Capt. Waters that the mine was only in its infancy, and that they had in it a very great future before them. He (Mr. Watson) also advocated the employment of boring machinery, remarking upon the advantage which such machinery had been in the working of Dolcoath, Carn Brea, and other large mines. It should also be borne in mind, as a very fortunate circumstance, that while sevencighths of the large lead mining companies had suffered from the gigantic failure of the Burry Port Company this company had sustained no loss whatever. The Round Hill property, too, at one time returned from 50 to 70 tons a month, and he believed if it were thought desirable to form another company to work that property it would answer perfectly well.

On the motion of Mr. Employer seconded by Mr. Greenert.

thought desirable to form another company to work that properly it would answer perfectly well.

On the motion of Mr. Edridge, seconded by Mr. Greensill, the auditors, Messrs. Brandt, Stansfield, and Company, were reappointed.——It was also decided on the motion of Mr. Siddons, seconded by Mr. York, that in future the general meetings of the company should be held alternately in London and on the mine.

Mr. Cremonini then moved that the Chairman should be replaced as a director by Mr. E. D. Shaw.—Mr. F. Walker seconded the

as a director by Mr. E. D. Shaw.——Mr. F. Walker seconded the motion, which was supported by Mr. Greensill.

The CHAIRMAN having remarked that the motion if passed would

not be legally binding—and he said this advisedly—declined to put not be legally binding—and he said this advisedly—declined to put it to the meeting.

After a discussion of a personal character,
Mr. Shaw proposed, and Mr. Cremonin seconded, a vote of thanks to the directors, with the exception of the Chairman, which was carried unanimously.

The proposition having been carried, Messrs. Greame, Watson, and Vark bright asknowledged the convolument.

The proposition having been carried, Messrs, Greame, Watson, and York briefly acknowledged the compliment.

On the motion of Mr. Cremonin, seconded by Mr. Gilbert, a cordial vote of thanks was passed to Captains Waters and Smitham for their attention to the working of the mine.

Capt. Waters returned thanks, and in doing so expressed his increased confidence in the success of the mine. He thought the statement of the Chairman as to the mine had been misunderstood.—

[The Chairman's They would not let me explain what I did mean.] [The CHAIRMAN: They would not let me explain what I did mean.] The Chairman should not say the lode was poorer, but he meant that no dividend had been paid this half-year, and that instead of sinking in a rich course of ore they were at work in the shaft; there-

fore, the financial position of the company was not so good as it had been. However, a fine course of ore had been discovered in the bottom of the shaft, into which a boring 3½ ft. had been made in notion of the shart, into which a boring 35 ft. had been made in solid lead. He believed with the lode in the 192 they would all be satisfied. He had been at the working there over 20 years, when the mine was only 40 fathoms deep, and when it was said that the property was "as poor as a church mouse." Since that time over 60,000%, had been returned to the shareholders. (Applause.)

The CHAIRMAN said Capt. Waters exactly bore out what he intended to say if he had been permitted.

The meeting was then constituted special.

On the motion of Mr. Shaw, seconded by Mr. Cooper, it was decided to increase the number of directors to seven—the maximum number allowed by the Articles of Association.

Mr. P. Watson then proposed the election of Messrs. W. Cooper

and E. D. Shaw to seats at the board, which would give the Wolver-hampton shareholders three representatives on the board.

Mr. York seconded the motion.

The CHAIRMAN proposed the following amendment:—That Messrs.

Shaw, Cremonini, and Greensill be elected directors of the Tanker-ville Mining Company, and stated that if these gentlemen be duly elected after they have taken their seats at the board he (the Chair-man) would resign in favour of Mr. Cooper.

man) would resign in favour of Mr. Cooper.

Mr. S. F. Walker seconded the amendment, which was carried by a show of hands, but the result was reversed by 1989 to 1213 shares, a poll having been demanded.—The original motion was then carried by nine to four hands.

Mr. Siddon's then proposed, and Mr. Walker seconded, the election of Mr. J. Cremonini as a director of the company.

The motion was carried on a show of hands, and also, it was stated, by the number of shares represented—2063 against 2049.

Messrs. Cooper, Shaw, and Cremonini having returned thanks, the proceeding terminated.

WEST TANKERVILLE MINING COMPANY.

The annual meeting of shareholders was held at the mine, near Minsterley, Salop, on Thursday, the 19th inst...

Mr. JOSEPH J. PYNE in the chair.

Mr. J. H. MURCHISON (the London manager and secretary) read the notice convening the meeting, and the directors' and agent's reports. The manager's report and the accounts having previously been circulated, were taken as read. The reports are as follows:—

Your directors have disculated, the belance that and managers's report which

Foundated, were taken as read. The reports are as follows:

Your directors have circulated the balance-sheet and managers's report, which has given you the opportunity of learning learning the results of the past year, and the prospects of the mine. You will observe that for the 12 months there have been sold 385 tons of lead ore ore for \$7224., or an average of 14'. 17s. 64, per ton, and 110 tons of blende for \$260., or 4'. 18s. 7d. per ton, against only 180 tons of lead ore for \$7714., or 18f. 7s. 10d. per ton, and 60 tons of blende for 2491., or 14'. 18s. per ton, in the previous year. After charging every expense at the mine and in London, the loss on the working for the year is 186'. 5s. Your directors hope to see a good balance on the other side for the curreut year. During some months of the past winter the long and unprecedented wet weather caused the suspension of the shaft for a considerable time, and has delayed the laying open of the 8'. You have already been informed by circular of the failure of the Burry Port Smelting Company, of which this company is a creditor for 186'l. 13s. 3d. for ore sold. Your directors have not taken credit for any of this amount in the accounts, and they fear that the sum likely to be recovered will be small. But for this unfortunate and unavoidable loss the credit balance would have been more satisfactory. Mr. Pyne, one of the directors, goes out of office by rotation, and offers himself for re-election, as does the auditor.

Jaly 3.—The 86 fm. level is going south from boundary shift on the course of a

for this unfortunate and unavoidable loss the credit balance would have been more satisfactory. Mr. Pyne, one of the directors, goes out of office by rotation, and offers himself for re-election, as does the auditor.

July 3.—The 86 fm. level is going south from boundary shaft on the course of a strong lode, composed of spar, with stones of lead ore and blende of a very promising character. We are only carrying a portion of the vein at present, butshall out through to the hanging-wall as the end goes forward. I would remark here that the indications in the present bottom are more cheering than anything seen adjoining the shaft at the 75, and I doubt whether the latter drivage is on the same division of lode as that in the 86. This matter will be cleared up in due course. The 75 is driven south of the shaft altogether 32 fathoms, the end being 2 fathoms beyond the winze. In the present forebreast the lode is in two divisions, the footwall part being 2 ft. wide, of stones of ore, and the hanging part 3 ft. wide, worth 1½ to 2 tons per fathom. As the end goes forward it is expected that the sald parts of the vein will unite, when a more valuable run of ore will be the result. The principal deposits of ore worked by the old men, and subsequently by the company, from the 20 down to the 63 fm. level, are (calculating the dip all south of the present 75 end, hence this level is only just entering the productive ground in the mine. The stope in the back of the said level, north of the winze, by six men, at 5l. per fathom: the lode is worth 1½ ton per fathom. A new stope south of the winze, to follow the 75 end, by six men, at 5l. per fathom: present value 1½ ton per fathom. The 63 fathom level is driven couth of shaft 45 fathoms, most of the distance being through productive ground. The bulk of our returns have for some time come from the stopes above this drivage, and there is a very good run of ore to be seen along the bottom of the level, which will be laid open by the 75 fm. level end, as before mentioned. The 63 i

The CHAIRMAN said: Gentlemen, before moving the adoption of this report I wish to make a few remarks, and I will commence with the most unpleasant one—that is, the loss we have sustained by the failure of the Burry Port Smelting Company. As business men we know, unfortunately, that we cannot carry on a business any number of years without making a bad debt, and this has been a very unfortunate bad debt for us, inasmuch as for three consecutive sales of ore they were the purchasers. They have been the largest purchasers of our ore, having taken from 20 to 25 per cent. of our total sales, and up to the time of their failure there had never been any difficulty—they had always met their bills punctually. I am not sure that you are all quite aware of the terms upon which lead ore is sold, but it is in this way—when the ore is ready samples are sent out, and the party who offers the largest amount is the purchaser. Now, the ore we sold in January, February, and March they purchased, but the difference between their bids and the next bids was comparatively very small. In January the highest bid was 3s. 6d. per ton, in February 10s., but in the last sale their bid was only 1s. more than the next bid. If they had been bidding anything very extraordinary it might have raised our suspicious The CHAIRMAN said: Gentlemen, before moving the adoption of anything very extraordinary it might have raised our suspicious that something was wrong, but such was not the case. They bid a fair price, and we could not do otherwise than supply the ore, especially as all their bills had previously been met in the most regular way. As soon as I heard the rumour in London—I heard it on the Exchange at first—I at once telegraphed to Capt. Waters to stop the ore being delivered, and, fortunately for us, of the last sale of ore—that sold in March—we had only sent 6 tons, and we saved

ore—that sold in March—we had only sold.

29 tons.

Capt. Waters: We made 30s. a ton more by that than if we had sold it to the Burry Port Company. We sold it to a Manchester firm, and they paid us in cash at the time. I merely mention that to show we did the best we could under the circumstances.

The Chairman: We believed the Burry Port Company to be thoroughly substantial, and I know for a fact that during the past year they sunk 20,000% in their business. I can only express my regret and the regret of the board that this loss has occurred. It was perfectly unavoidable, and as soon as there was any doubt we stopped

the supply of ore.

The SECRETARY: The Great Laxey Company lost 5000l. by the failure, and the Van 3000l.

failure, and the Van 30000.

Capt. Watters: No men were more highly respected than that firm. The CHAIRMAN: Now, to go on to the mine, for I think I have said as much as is necessary about this bad debt, which I think will be a complete loss. In the mine we have nothing much to complete loss are gone marries of for we have gone marries of form we have gone marries of form we have gone marries of the more dependent. plain of, for we have very nearly paid expenses. We hoped to have done more, and we should if the lode had held out as we expected, for we could have increased the returns and paid the dividend on the preference stock. An addition of 10 tons a month would rather more than pay the preference interest, and we were in hopes of being able to get this addition. If the lode had not been so bunchy set thas turned out to be we should have ingressed the returns as out to be we has turn as it has turned out to be we should have increased the returns as we hoped. We think that in depth it will be more even. I believe Capt. Waters will tell you that when we get into the run of ore in the 75 we shall have a long continuance of a good lode; it is now worth from 1½ to 2 tons per fathom. We have a very important point coming off at the 86, which is our bottom level. I have heard this received that it is weather the father than the

this morning that it is worth 1½ ton to the fathom.

Capt. WATERS: Yes; and it has improved since. I thought at first it was only worth 15 cwts, to the fathom, but the lode has improved, and there is a regular solid branch of ore from the top to

proved, and there is a regular solid branch of ore from the top to the bottom, and it looks like a good run of ore now.

The CHAIRMAN: We are driving now on the hanging-wall of the lode; previously we have been driving on the foot of the lode. Capt. WATERS: We are driving purposely on the hanging-wall, finding that the foot-wall was poor.

The CHAIRMAN. That appears to be the important and rich part of the lode. But there is another important point—that is the east lode from Roman Gravels at the same depth. In the 63 it is worth from 1½ to 2 tons. If we get anything like so good a result in the cross-cut we shall keep up the returns.

Capt. WATERS: I think we shall get as much from our east lode as

e are getting altogether at Roman Gravels.

Mr. Siddons: We heard they were drowned out on the main

Roman Gravels lode.

The CHAIRMAN: We are not quite so deep, and they drain us; On the whole, I think it is so far satisfactory. We have, as I have told you, very good points working on, and it does appear that during next year our returns will be increased 10 tons a month, during next year our returns will be increased to tons a month, which would more than pay expenses and the interest on the preference stock. A further additional 10 tons would give us something on the ordinary stock. I do not think at all that the market price of our stock is the proper price. I think there is nothing more that I need speak about, but Capt. Waters will, I am sure, be happy to answer any questions which you may wish to put. I will now move—"That the report of the directors, with the report and balance-sheet he pessed and adouted".

now move—"That the report of the directors, with the report and balance-sheet, be passed and adopted."

Mr. Charles J. Hill: I have pleasure in seconding that,

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Mr. Charles J. Hill: I have pleasure in seconding that,

Mr. Charles J. Hill: The Secretarry said Mr. Crawshay had not resigned, but as he had been absent for some time in consequence of ill health, Mr. Pyne had acted as chairman for the past six months.

Mr. Chemonini said it would be recollected that last year he raised an objection to the last new allotment of shares, the capital on which was not called up. He wished to know how much of the capital had been called up since the previous meeting?

The Secretarry replied that the amount not called up was 1489/.

Mr. Chemonini said the shareholders would perhaps recollect that

capital had been called up since the previous meeting?

The SECRETARY replied that the amount not called up was 1489/.

Mr. CREMONINI said the shareholders would perhaps recollect that the new capital was to be raised for the purpose of developing the mine. Having visited the mine he found, according to his judgment, that the mine if properly worked would prove beneficial to the shareholders, and he had applied for some shares and paid them up in full. He had impressed strongly on the minds of the directors that the mine should be vigorously developed with the 2000/. in hand. He was sorry to see that the working had not increased at all, and he found that only about the same number of men were employed as before the previous meeting. He thought the money would gradually be consumed in expenses, without any benefit to the shareholders, if a more vigorous course of working was not pursued. He was not sufficiently acquainted with the working of mines to dictate to the directors what should be done, but he was of opinion that if capital were subscribed for a certain purpose the capital should be applied to that purpose. (Hear, hear.) He would not blame the directors if it did not prove successful, but he would blame them for not working the undertaking with sufficient energy. (Hear, hear.) Of course if the directors would prove that his judgment was wrong he would apologise for his remarks.

Capt. Watters wished to reply to Mr. Cremonini, as his remarks were a reflection on the management, though he night not mean them to be so.

Mr. Cremonini disclaimed any intention of blaming Capt. Waters.

Mr. CREMONINI disclaimed any intention of blaming Capt. Waters. Capt. WATERS said if the mine were his own and he had the wealth of a Rothschild he would work the mine as it had been worked. (Hear, hear.) Of course, if they had a large capital in the bank to draw upon every time the cost-sheet became due he would have gone on working the old mine, for he believed there was a good shale bunch there, but with the amount of money available he believed the mine was being worked as it should be, and he mainlieved the mine was being worked as it should be, and he maintained that it was being worked as vigorously as possible under the circumstances. There was not a mine in the kingdom where a shaft had been sunk with greater speed than their boundary shaft had been. They had been driven out by water six months at a time, but they could not be held responsible for the elements, but the mc ment he saw that sixpenny worth of work could be got for sixpence the work was done. So far as the boundary part of the mine was concerned, it had been worked most vigorously. As to driving on the foot-wall part of the lode at the 75, they were justified in doing this, because that part was the bearing portion of the lode in the upper levels; but it had changed like the lode had at Roman Gravels. Such mistakes must occur—if mistake it could be called—and he was quite willing that the workings should be examined by the most eminent mining engineers in the kingdom. He believed —and he was quite willing that the workings should be examined by the most eminent mining engineers in the kingdom. He believed the mine to be a good one, and that in years to come the great Roman vein would be found in it. If the mine were his, and he had the money, he would sink a shaft 150 fms, deep close to the boundary, where he believed the Roman vein would be found. This was not detracting anything from the wealth of Roman Gravels, for there was plenty of one there for their time, and posterity would have to look after itself.

Mr. Suppoys saked why the whole of the capital had not been

Mr. Siddon's asked why the whole of the capital had not been called up?——The CHAIRMAN replied that the reason why the whole of the capital had not been called up was because it was not required at once, and as it carried 15 per cent. interestit was thought better call it as required. Mr. Crawshay was quite willing to pay up

whenever required.

Mr. Greensill asked if more men could not be judiciously em enever required. ployed in working the mine? Year after year the capital was dribbling away, and the balance was nearly gone. If possible he thought more men should be employed. He wished also to ask if the directors had acted legally in appointing a fifth director, for he thought the Articles provided for four directors only?—The CHAIRMAN said the Articles gave power to elect five directors.

Mr. GREENSUL thought that Mr. Crawshay was appointed without the consent of the shareholders.

out the consent of the shareholders.

The SECRETARY produced the minute of the general meeting of August 5, 1875, respecting Mr. Crawshay's election, and remarked that Mr. Greensill was himself present at that meeting.

Capt. WATERS said with respect to Mr. Greensill's question as to having more men, the shareholders were aware that the boundary shaft had been sunk as fast and as regularly as possible. It was having more men, the shareholders were aware that the boundary shaft had been sunk as fast and as regularly as possible. It was now down to the 86 fm. level, and the shaftmen were driving out to cut the lode. As soon as the 86 fm. level end was far enough from the shaft to put the men out of danger the sinking of the shaft would be resumed, but this could not be done until the men would be out of danger. The 75 fm. level was being driven with a full body of men and as soon as the 86 fm. level was driven 7 or 8 fathoms beyond the shaft they were going to sink the shaft, and lay open the ground for stoping. All the stopes were working with full pares of men.

Mr. Aves asked with respect to the driving of the 75 fm. level if Capt. Waters had not tried whether he was working on the hancing

Mr. Aves asked with respect to the driving of the 75 fm. level if Capt. Waters had not tried whether he was working on the hanging-wall or the footwall of the lode? Was there no means of testing this so as to find out the error?—Capt. Waters said he had already explained that in the upper levels the footwall was the productive part of the lode. If they had made a cross-cut they would have had to go 3 or 4 fathoms without finding out the mistake, and this would not have been justifiable, as the footwall and not the hanging-wall had been productive hitherto from the surface to the 60 fm. level. He had not found out what the actual state of the lode was until the winze was reached, and he would have gone on driving the 86 fm. level if it had not been found that the hanging-wall was becoming productive. This was a misfortune for which wall was becoming productive. This was a misfortune for which nobody could be blamed.

nobody could be blamed.

Mr. Aves asked with respect to the sales of ore in January, February, and March how it was that there were three consecutive payments out-tanding?—The Charman said he had intended to explain that the payments for one sold are either made in cash, with 1½ per cent, discount, or in bills at three months. The Burry Port Company had always paid in bills, which had up the time of the failure been punctually met. The matter was now being discussed amongst mining convenies and be hered these situations.

manure been punctually met. The matter was now being discussed amongst mining companies, and he hope! that an alteration in the mode of payment would be the result.

Mr. CREMONINI hoped that every effort would be made to get cash payments in future. (Hear, hear.)—The CHAIRMAN replied that the directors would do all they possibly could to get an improvement in the manner of payment, but by themselves they could not alter the rule of the trade.

The reports and accounts were then unanimously adopted.

The reports and accounts were then unanimously adopted Mr. Samuel York proposed the re-election of Mr. Joseph J. Pyne as a director of the company with a great deal of pleasure, for it would be impossible to have a more industrious man on the board, or one more devoted to the interests of the company .--

MONINI had pleasure in seconding the proposition, which was carried. MONINIT had pleasure in seconding the proposition, which was carried. The CHAIRMAN, in returning thanks, said he had been connected with the company from its commencement, and he had always firmly believed in its success, especially in the south boundary part. It had not been opened up quite so quickly as he had expected, but he hoped that it would be a dividend-paying concern before long. On the motion of Mr. Greensill, seconded by Mr. Siddons, the auditor, Mr. E. Ashmead, was reappointed,
Mr. Cremonni moved a vote of thanks to the chairman, directors, and managers of the mine for their attention to the interests of the company during the past year, expressing a hope that during the current year greater progress would be made in the development of the mine. —Mr. Cooper seconded the motion, which was carried

-Mr. Cooper seconded the motion, which was carried of the mine

unanimously.

Capt. WATERS remarked that any blame as to the working of the should be thrown on himself and his brother agent, and not the directors, who had never dictated to them how the mine d be developed. hould be develope

Mr. GREAME said if they had gone on working the old mine all the capital would have been spent before this time. It should be borne in mind that the price of lead was 2l. per ton less than it had been, and this had also told against them.

The CHAIRMAN having returned thanks for the compliment passed the proceedings terminated.

PARYS MOUNTAIN MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices of the company, St. Helen's place, on Monday (Mr. J. Y. Watson, F.G.S., in the chair), for the purpose of passing the follow-

WATSON, F.G.S., in the chair), for the purpose of passing the following resolution, if deemed expedient:—

That the Morfa-du portion of this company's sett and fixtures and machinery thereon he sold to a new limited company, proposed to be formed under the Companies Acts, 1862 and 1867, having an original capital of 11,250.—in 11,250 shares, of 11, each—one of whose objects is to be the purchase and working of the same, and which company is intended to be called the Morfa-du Mining Company (Limited), and that such sale be for the sum of 5000t, payable by instalments, such instalments to be paid or secured at the times and in the manner expressed in a contract already prepared and submitted to this meeting, in the schedule to which contract the property included in the sale is described, and that such sale be on the terms contained in, and the company's seal be affixed to, such contract.

In the circular accommanying the resolution the directors stated

In the circular accompanying the resolution the directors stated

The above resolution deviates from that passed at the extraordinary general ceeting, held here on May 10, because the directors found that there were legal pertinents in the way of carrying them out. It will be remembered that what any be termed the original scheme contemplated the assignment of a portion of e Parys Mountain sett for the sum of 400%, in cash and bonus shares, but it as found that the company had no power to dispose of any of their rights for larse. After mature consideration and consultation with several large holders, the directors submit the above resolution, in the confident conviction that the rms will meet the views of the proprietary, and provide means to develope the arys Mine proper, and the new sett. The new company presents unusual promise success, and the board urge upon their oo shareholders to subscribe for the new sures, and so at the same time ensure the prosecution of the crosscut at the 90 suth, to get under the great open cast. Since the meeting of May 10 severa mall branches of ore have been intersected, and the indications as the open-cast approached are most promising. The directors desire to impress upon shareholders that the future of both mines depends upon the successful carrying out of its scheme, as without further capital the Parys Mines can obtained to the carried on.

olders that the future of both mines depends upon the successful carrying out of its scheme, as without further capital the Parys Mines cannot be carried on. The CHAIRMAN said that Mr. Tayler, the legal adviser of the ampany, was present, and would be happy to give any further information.

Mr. TAYLER said the contract was on the table, and could be seen

by any of the shareholders.

The SECRETARY said the contract provided for the sale of the Morfa-du portion of the Parys Mountain sett, for the sum of 5000*L*, payable in instalments in the manner therein set forth.

A SHAREHOLDER asked if 11,000*L* were to be raised, what was

the 5000% for — The Chairman said that 5000% went to the Parys Mountain Company in payment for the portion taken, and 6000% went to the new company to work the Morfa-du portion.

Mr. F. Braby, a director, explained that the Parys Mountain owned two distinct properties—one called the Old Parys Mountain and the other the Morfa-du, but owing to the want of capital to work both the Morfa-du had been left unworked. But the Morfa-du was always thought to have good value, and the proposal was to separate the property into two companies; as, indeed, they were separated geographically. As a metter of fact, more money had been given for the Morfa-du property than was now proposed to be paid for it, but more money was wanted to develope the lodes, and push on under the Great White Rock, before it was believed that it would become profitable. that it would become profitable.

A SHAREHOLDER: I understood at the last meeting that 700l. A SHARRHOLDER: I understood at the law meeting that 700. was required to make the Bluestone available: why was not that attempted before you asked for this 6000l.?—The CHAIRMAN explained that unless they worked the Parys Mountain now it must stop. As regarded the Bluestone they did get some of the rock and sold some, but at the then price it would not pay, but now there were offers in the office for 3000 or 4000 tons a year at a price which would be regularizing the proper now. word offers in the office for 3000 or 4000 tonsa-years a price which would be remunerative; therefore, by obtaining the money now proposed the directors hope to be able to work the Parys Mountain, and place it in a good position.

On the motion of the CHAIRMAN, seconded by Mr. Lucas, the resolution given above was then unanimously carried.

The SECRETARY said the resolution must be confirmed at a future meeting, but in the meantime the prospectus of the new company could be submitted to the shareholders. He might mention that a

could be submitted to the shareholders. He might mention that a great many letters had been received in the office from the shareholders, all of whom had signified their intention of subscribing for shares in the new company; one gentleman thought that a number of free shares should be allotted to shareholders in the new company, but that could not legally be done, as Mr. Taylor, the soli-citor advised that the directors could not issue bonus shares.

The Charman said the committee proposed to issue the new shares in the proportion of one new share to every two old shares, and if not taken up, of which, however, there was but little doubt,

ey would be offered to the public.
The Secretary: Some will take up their full number, others ore. There will be no great outlay necessary to work the Morfanger The CHAIRMAN said that for about 700l he believed they ould be able to place ore on the market.

The Secretary said the suggestion of the committee was that, should be paid on application, 2s. 6d. on allotment, 2s. 6d. in

A SHAREHOLDER: It may be possible that you may not require at all.—The SECRETARY: It will be very unlikely that it will

be all required.

Mr. Brank remarked that all the plant and machinery on the orfa-du property came to the new company.

A SHAREHOLDER asked how the cross-cut was getting on in the Parys Mountain ?-

The SECRETARY replied there was no change rices received on Saturday. There were 25 fms according to the advices received on Saturday. There were 25 fms. still to drive to get to the outside wall of the open-cast, but there was the chance of lodes being at tevery day.

In answer to a further question, the SECRETARY said that copper remained steady at a low price. (A laugh.)

The confirmatory meeting was then fixed to be held on August 7 next, and the proceedings terminated.

LLAN GAN LEAD MINING COMPANY.

LLAN GAN LEAD MINING COMPANY.

The first ordinary general meeting of shareholders was held on Tuesday, at the Great Western Hotel, Birmingham,
Mr. Henny Wright (chairman of the directors) in the chair.
The directors present were—Messrs, G. Smith, F. Burt, S. Walker, and T. Parker. There were also present—Messrs, A. E. Walton (the company's consulting engineer), Capt. Thomas Wasley (manager), George King Patten (secretary); and amongst the shareholders present were—Messrs, James Richards, F. Hands, J. T. P. Whittle, James Parker, G. A. Panton, C. H. Jones, W. H. Wright, Gordon Smith, J. F. Bellis, J. H. Chandler, C. Baker, J. Pitt, G. A. Richards, James Richards, &c.

The Secretary read the notice convening the meeting.

James Richards, &c.

The SECRETARY read the notice convening the meeting.

The directors' report stated that considerable delay occurred in the delivery of the machinery, which was followed by weather so unfavourable that it was not possible to get the engine, pumps, and crushing machinery into working order until the middle of March. The sinking of the engine shaft was then resumed, and has been rapidly pushed forward. The development and improvement in Wright's lode, and on the lode at the old engine-shaft, as they descended were of

a most encouraging character. Several tons of lead were forwarded to Swanfor sale in May, and other purcels had followed. In the prosecuted to Swanfor a profitable and complete development of the mine it was necessary to have an outlay beyond the present subscribed capital, and the directors recommend that the nominal capital should be increased to the extent of cold, by the issue 1600 additional shares of 5t. each, which would make the total capital growth and the times and with such a small outlay, is a very unusual occurrence in mining. The moderate sum for such a small outlay, is a very unusual occurrence in mining. The been made. That the machinery was in good and satisfactory progress had were well and substantially built. That the shareholders possessed a rery valuable were well and substantially built. That the shareholders possessed are revisiblely and their prospects were more encouraging at the present time the they had been at any period.

Capt. WASLEY (manager), after fully reporting upon the preperty, and the different works carried out under his superintegore, said he had rarely, if ever, met with a mine that promised so great a success to the shareholders in so short a time.

The CHAIRMAN, in moving the adoption of the report and state ment of accounts, alluded to the sales which had been effected during the last three months, and said the company had therefore we

The CHARMAN, in moving the adoption of the report and state ing the last three months, and said the company had thereby made a profit of 286?, which was equal to 5 per cent. on the cash outlay, or 2% percentage as the capital of the company. The development of the mine had been effected during the last three months, and said the company had thereby made the capital of the company. The development of the mine had been steadily imparting, and they now had rich leaders of lead. He feit confidence in that at the est and they now had rich leaders of lead. He feit confidence in that at the est are thighly gratifying one.—Mr. Baker seconded the resolution.

Mr. RICHARDS, in supporting the adoption of the reports and accounts, stated ments made by both the Chairman and in the reports. He occur does not make the that he had recently visited the mine on his own accounts, and decounts, stated ments made by both the Chairman and in the reports. He occur deep continued they were like ments made by both the Chairman and in the reports. He occur deep continued reproductive the continued reproductive that the had been the continued reproductive that the had recently visited the mine on his own accounts, and there than at the top, thus showing a marked improvement in depth. He was so satisfied with the undertaking that he should take more shares.

Mr. Smith (deputy Chairman) said that the mine had only which pen started a year, and in that short time they had sent parcels of lead to the market, a very unmaining and this mine compared most favourably with the best mins, capt. Wasley in reply to several questions by shareholders, said that were he were for the mine. Great was now down. 20 fattoms, and the one of which had taken from five to ten years to open.

Capt. Wasley in reply to several questions by shareholders, said that were he lock had improved. The engine-shaft was now down. 20 fattoms, and the enevery confidence in the mine. Every fattom that the mine had been suck the help of the mine.

Mr. MITTEL asked several quest

The meeting was then made an extraordinary one. — Mr. Gronge RING PATTEN, the secretary, having read the notice making the meeting extraordinary, the CHAIRMAN said that this meeting was for the purpose of authorising an increase of capital from 12,000, to 20,000. He would simply say in the words of the directors' report that the increase would be both wise and profitable.

Mr. RICHAIRS proposed the following resolution, which was seconded by M. WHITTLE, and unanimously carried: — "That the capital of the company be, as it is hereby, increased from 12,000, its present amount, to 20,000, by the issued 1600 additional shares of 61. each, and that the said shares be offered pro rate to the present shareholders. Any residue of shares which may not be the treath of the treath of the treath of the company of the my, to be allotted to such persons and at such time as the directors may demeaned the proposed and Mr. Joyes seconded a cardial expedient."

cpedieft."
Mr. RICHARDS proposed, and Mr. JONES seconded, a cordial vote of the the Chairman and directors, which was carried by acclamation, and was outled to by the Chairman.
Mr. PARKER proposed a vote of thanks to the engineer and officials of the any, which was seconded by Mr. HANDS, and carried.—Mr. WALTON by policid.

closed the proceedings, but before leaving the room a considerable power capital was subscribed.

DON PEDRO NORTH DEL REY (GOLD) MINING COMPANY,

The meeting of shareholders will be held at the Terminus Hotel on Wednesday, when the directors will present their annual report:—
The gold return has amounted to 48,860 oits, or 5633 ozs, troy, realising the sun of 21,317. Its 3d.; adding interest and other receipts the total income amounts to 22,682f. 8s. 9d., whilst the working expenses have been 24,703f. 8s. 2d., leaving a loss of 2020f. 19s. 5d., the whole of which was incurred in the first half of the year. Great attention has been given to the question of reducing the expense, and the directors believe that the establishment is now conducted in an economical manner, and are glad to be able to report that Capt. Vivian has completed some works, and has others in hand, as hereafter referred to, which will tend to economical time of this production of the company's wook. As regards the question of cost, it must be borne in mind that labour in Brauli becoming dearer, whilst the expense of working has a natural tendency to increase aggrestee depth is a stained.

portant item of timber by obtaining poles and small trees from the company's work.

As regards the question of cost, it must be borne in mind that labour in Brailine beoming dearer, whilst the expense of working has a natural tendency to increase as greater depth is a 'tained.

The present pumping machinery, being unequal to the duty required of it, has entailed considerable expense for repuirs, in addition to which the frequent break ages have caused great loss of time, whilst it is manifest that the cost of extracing mineral from the bottom of the mine has been much increased for years pust oning the interest of the stopping of

t Capt. Vivian is alive to the ne

(For remainder of Meetings see to day's Journal.)

POLYGONOSCOPE.—A new optical instrument has been invented by Mr. Ezra Hatron, of Manchester, ornamental metal worker, for producing and displaying an infinite number of designs and patterns. which can be copied or photographed, and may be used for at, manufacturers, for amusement, or for other purposes. The instrument consists of two mirrors of any desired shape or size, fixed in and protected by a case or frame of metal or any other suitable manufacturers. terial; these mirrors are connected together by means of a universibinge, which is so arranged that the mirrors can be set and fixed any angle to produce any required design. One of the mirror losses in its frame, and can be moved towards or from the other, when the terms are the control of the mirror in the mir that at whatever angle they may be fixed the edges of the mirror can be made to touch each other, thus preventing the pattern of design from being broken in the centre. The apparatus can be closed up in a portable form, similar to an ordinary pocket book. Patterns having any number of angles or sides may be produced by varying the angles of the mirrors. The improved hinge for connecting the frames of the mirrors consists of three injury that is to see ing the frames of the mirrors. The improved hings for collecting the frames of the mirrors consists of three joints, that is to see no joint for each frame, and a centre joint on which the other two hings. By this means the frames can be opened to the full extent and turned back to any angle, and they can be folded close together. This hings is applicable to articles of furniture, and to other appliances.

CONVER The known the oxygen or improved by do not and c do not between the utility and Ic of the manufic and to give and JULIEN-a red heat in slowly passecarbonated by peat, coke, to heated to a takind (such a same temper from 12 to 14 Martin metal metal, as above in a vessel, s gradually to iscontained by hydrocarbons isto ammon immersed in he purpose Now, as it

JULY 2

ductive source vide against current of ca Then they combustion o sing it to it is passed other retorts combustibles equally to the serves for th this gaseous ture of this and carbonic the layers of the lime, wh pyroligneous the hydroca which they of wood. It will be in and that sage therefr

same purpos they will be cording to t melting stee

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CONVERTING IRON INTO STEEL WITHOUT MELTING.

CONVERTING IRON INTO STEEL WITHOUT MELTING.

The known processes for transforming iron into steel (refining by the oxygen of theair, or the Bessemer method, or Reaumur's method, improved by Siemens, Martin, and others), ingenious as they are, improved by Siemens, Martin, and others), ingenious as they are, do not and cannot give but imperfect intermediate compositions do the ten the castings of true iron and steel. Although of undoubted between the castings of true iron and steel. Although of undoubted will be an interest of the manufactures requiring fine steel. To overcome these defects, and to give to the metals the requisite qualities, Messrs. Krafff and Julien-Sauve Fils, of Paris, subject them for some hours to and Julien-Sauve Fils, of Paris, subject them for some hours to and Julien-Sauve Fils, of Paris, subject them for some hours to and Julien-Sauve Fils, of Paris, subject them for some hours to and Julien-Sauve Fils, of Paris, subject them for some hours to of the metals the requisite qualities, Messrs. Reaffer and to give to the metals the requisite qualities, Messrs. Attaffer and to give to the more to and JULEN-SAUVE Fils, of Paris, subject them for some hours to and JULEN-SAUVE Fils, of Paris, subject them for some hours to a red heat in a retort filled with carbonaceous matter, over which is red heat in a retort filled with carbonaceous matter, over which is red heat in hydrogens. They introduce wood, vegetable charcoal, earbonated hydrogens. They introduce wood, vegetable charcoal, past, coke, or any like kind of vegetable materials, very dry, and pasted to a temperature of about 50°, into a hydrocarbon oil of any heated to a temperature. This latter is absorbed in the proportion of same temperature. This latter is absorbed in the proportion of same temperature. This latter is absorbed in the proportion of same temperature and they form with bars of Bessemer metal from 12 to 15 per cent. and they form with bars of Bessemer metal from 12 to 15 per cent. and they form with bars of Bessemer metal from 12 to 15 per cent. and they form with bars of Bessemer metal from 12 to 15 per cent. and they form with bars of Bessemer metal from 12 to 15 per cent. and they form with bars of Bessemer metal from 12 to 15 per cent. and they form with bars of Bessemer metal from 12 to 15 per cent. and they form the refining of cast materials, as a second metal, as about a subject of the vapourised by the vegetable materials in presence of the vapourised by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be exhausted by distillation, they productive source of the gas may be ex

when they obtain this gaseous mixture from the products of the combustion of the furnace which serves to heat the apparatus they easing it to pass over carbonaceous matter heated to red heat before it is passed to the metals. In the Siemens, Ponsard, Muller, and other retorts, the principle of which consists in the gasification of combustibles, they give a mixture of the gases, which they employ equally to the heating of the apparatus as to the transformation of the metal to steel. The gas which escapes from these furnaces also serves for this double purpose. When, on the contrary, they obtain this gaseous medium by direct calcination of limestone, or the mixture of this with other carbons, the gaseous products (carbonic acid the products) and having at the various levels or stages from these furnaces also serves for this double purpose. When, on the contrary, they obtain this gaseous medium by direct calcination of limestone, or the mixture of this with other carbons, the gaseous products (carbonic acid

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other articles from Bessemer metal, Martin metal, and generally from all metals which are obtained from castings, either by refining with the oxygen of the air, or by refining by reaction. In addition to the steel they obtain simultaneously and at will from the lime, it the ammonia, and the pyroligneous acid, tarry hydrocarbons, which they use over again, and wood or peat charcoal of denser quality then that used originally, not only fit for domestic purposes, but for use in metallurgy.

If cast-iron particularly acted upon, and if this cast metal heated to red heat is exposed in a retort to a current of carbonic acid alone or mixed with air it will be transformed into ated, and the gas will become carbonic oxide, which in passing into another retort charged with Bessemer metal at red heat will effect the conversion of this metal into fine steel, and will itself be reconverted into carbonic acid. Thus the carbonic acid (CO²) raised to the casting its excess of carbon (C) is transformed into carbonic oxide (2CO), this passing over the iron of the Bessemer metal and the like, will give up the farbon(C), and will return to the state of carbonic acid (CO²). From this a given volume of carbonic acid gas being given enclosed in a gasometer they may by passing this gas in the retorts heated to red heat and charged, the first with cast-iron, the second with Bessemer metal, and thus in succession (provided that the series commencing with cast-iron terminates with one or two retorts charged with Bessemer metal) to transform the whole of the metal into steel, and on collecting the gas in a second gasometer the same operation may be recommenced, and so on indefinitely. If the passage of the gas recommenced and so on indefinitely. lecting the gas in a second gasometer the same operation may be recommenced, and so on indefinitely. If the passage of the gas takes place in a converter charged with melted cast-iron, the transformation of the casting is more regularly and easily done, and with less loss of iron.

of naturng ropes or canans. For this purpose a vertical tune of equality to the heating of the apparatus as to the transformation of equality to the heating of the apparatus as to the transformation of the mine that the same of the superaturnal search of the super

ther articles from Bessemer metal, Martin metal, and generally the piston, the communication with the exhaust is closed, and the the piston, the communication with the exhaust is closed, and the communication with the atmosphere is opened more or less both at top and bottom, whereby the piston will be allowed to decend in the tube by its own weight, and at a speed which is regulated by checking more or less the ingress and egress of air. By closing these altogether the motion of the piston may be arrested at any point. Other means, to be presently described, are provided for arresting the motion of the piston at any desired point, and also for moving it to a certain extent for the successive introduction and delivery of the trucks. In some cases two such pneumatic tabes are arranged side by side to be worked alternately, so that the air withdrawn from the one tube for raising its piston can be made to flow into the other for lowering the piston.

Expanding Rock Drill.—Mr. W. R. Burt, of East Saginaw, Michigan, has patented an improved tool or drill for the purpose of enlarging the lower part of salt, oil, and artesian wells, without enlarging its top. It consists of hinged and wedge-shaped expanding arms that are spread or closed by a wedge-shaped slide piece and operating screw shaft passing through the same, and turning in the head of the socket of the expanding arms. By moving the wedge piece down the arms are spread outwardly, so as to passagainst the surrounding wells of the well, and expand the same to some extent, obtaining thereby a larger sized hole than at the upper part of the well. By turning the screw shaft in opposite directions, the wedge well. By turning the screw shaft in opposite directions, the wedge piece is moved up, and the arms are brought closer to each other, to be drawn up again through the bore-hole.

Longest Tunnel in America.—Few people know how great an engineering enterprise is going on in Baltimore County. For one thing alone, a tunnel six and four-fifths miles long—36.510 feet—is being built underground, for over four fifths of the distance through hard gneiss and granite. It will be the longest tunnel in the country, and there will be only two larger in the world—the Mont Cenis, which is 8 miles in length, and the 8t. Gothard, now in progress of construction, and which is to be 9½ miles. The fact that the water supply tunnel lies near enough to the surface to allow of numerous shafts greatly facilitates its construction. The tunnel is a circle 12 ft. in diameter, and extends from the Gunpowder river, about 8 miles from the city, to Lake Montabello—the distributing reservoir—near the Hartford turnpike, about 1½ mile from the city, the direction teing 28° west of south. This tunnel will conduct the water from the Gunpowder river to Lake Montabello. Thence a conduit, 4120 ft. long, known as the Clifton Tunnel from the fact that it passes under a portion of the Clifton Park, conducts the water to a point just south of the Hartford-road, where it enters six mains, each 4 ft. in diameter, which convey the water to the city, a distance of 1900 ft. The country along the line of the works is hilly, and the tunnel varies in depth below the surface from 67 to 83 ft. There are 15 shofts in the main tunnel, the deepest extending 294 ft. below the surface. The water rains down from the crevices of the rocks, and pours along the bottom of the drift. Gangs of men, each with his miner's lamp attached to his hat, are hard at work picking and delying in the limity bowels of the carth; and the monotoneus clang of the hammer upon the drift is constantly heard, except when everything is in readiness for firing a mine, when all retire to a safe distance, and thunderous reports roil through the rocky corridors. The work of the tunnelling is all done by hand, it being cheaper than the machine work in a drift of such narrow di

GUIBAL VENTILATIN COLLIERIES AND MINES.

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All sizes up to 40 ft. in stock or progress. Engines of the most approved class for driving. Boilers and Ironwork of every description.

JAMES NELSON, Marine and Stationary Engine Works, GATESHEAD-ON-TYNE.

JULY 2

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Contra



PARIS INTERNATIONAL EXHIBITION, 1867.



VIENNA INTERNATIONAL EXHIBITION, 1873.



LONDON INTERNATIONAL EXHIBITION, 1874.



CORNWALL POLYTECHNIC SOCIETY, 1867 and 1873,

BROTHERS AND TANGYE HOLMAN.

10, LAURENCE POUNTNEY LANE, LONDON, E.C., AND BIRMINGHAM, (TANGYE BROTHERS), CORNWALL WORKS, SOHO.

THE "SPECIAL" DIRECT-ACTING COMPOUND STEAM PUMPING

For use in Mines, Water Works, Sewage Works, and all purposes where Economy of Fuel is essential.

After several years of successful application for all purposes to which steam-driven pumps can be applied, THE "SPECIAL" STEAM PUMP STILL MAINTAINS THE FIRST POSITION IN THE MARKET, notwithstanding that it alone—of all direct-acting pumps—has been subjected to the great variety of severe tests that must be encountered in such a period of time. Some valuable improvements have been suggested in the course of a long experience, and their adoption has rendered the apparatus at once

THE SIMPLEST AND MOST CERTAIN IN ACTION.

The illustration shows an extension of the principle of this Pump to a Compound Steam Pumping Engine, by which the economical advantages resulting from the expansion and condensation of steam are very simply and effectively obtained. The steam after leaving the high-pressure cylinder is received into and expanded in the low-pressure cylinder, and is thus used twice over being exhausted into the condenser or atmosphere. The Engine combines simplicity, certainty of action, great compactness, fewness of parts, and consequent reduction in wear and tear. Several thousands of the "Special" Steam Pumping Engines, with high-pressure cylinders only, are in use in British and Foreign Mines, Water Works, &c.,—and for confined situations, or where Engines of a comparatively small size only are necessary, they will still meet all requirements—but their application will be very largely increased, since it has been found practicable to embrace the import ant features of expanding and condensing the steam, so that increased power may be obtained, and the consumption of fuel greatly economised.

THE "SPECIAL" DIRECT-ACTING COMPOUND STEAM PUMPING ENGINE is the most simple appliance for deep mine draining and general purposes of pumping ever practically developed and the first cost is very moderate compared with the method of raising water from great depths by a series of 40 to 50 fathom lifts. No costly engine-houses or massive foundations, no repetition of plunger lifts, ponderous connecting rods, or complication of pit-work are required, while they allow a clear shaft for hauling purposes.

SIZES AND PARTICULARS.

								1							-
Diameter of High-pressure Cylinder	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
Ditto of Low-pressure Cylinder		14	14	18	18	18	18	21	21	21	21	24	24	24	24
Ditto of Water Cylinder	4	5	6	5	6	7	8	6	7	8	10	7	8	10	12
Length of stroke	24	24	24	24	24	24	24	24	24	24	24	36	36	36	36
Gallons per hour approximate	3900	6100	8800	6100	8800	12,000	15,650	8,800	12,000	15,650	24,450	12,000	15,650	24,450	35,225
Diameter Suction and Delivery		31	4	34	4	5	6	4	5	6	8	5	6	8	9
Diameter High-pressure Steam Inlet		11	14	15	14	13	14	21	21	21	21	21	21	21	2
Diameter Low-pressure Steam Exhaust		1.4	14	14	15	19	19	24	21	24	24	21	24	21/2	2
Height in feet water can be raised with	- 2	- 2	-2	- 49	- 4	- 19	- 4	- 2	-2	-3	-2				
40 lbs. pressure per square inch in Non-condensing		330	160	360	250	184	140	360	264	202	130	360	275	175	120
cylinder						1									
Ditto ditto ditto-with Holman's Condenser	480	307	213	480	333	245	187	480	352	269	173	480	367	234	16
Ditto ditto with Air-pump Condenser		384	267	600	417	306 .	335	600	440	337	216	600	459	203	20
					1				1				4		(

							CONT.	INUED.										
Ditto of I Ditto of I Length of stro Gallons per ke Diameter Suc Diameter Hig Diameter Low	Water Cylokeour approtion and h-pressur	Saure Cylinder	28 8 36 15,650 6 24	16 28 10 36 24,450 8 2½ 2	16 28 12 36 35,225 9 2½ 3	$ \begin{array}{r} 16 \\ 28 \\ 14 \\ 36 \\ 47,950 \\ 10 \\ 2\frac{1}{2} \\ 3 \end{array} $	18 32 8 48 13,650 6 3 3½	18 32 10 48 24,450 8 3 3 ¹ / ₂	18 32 12 48 35,225 9 3 3 3 4	18 32 14 48 47,950 10 3 31	21 36 10 48 24,450 8 31 4	21 36 12 48 35,225 9 3½ 4	21 36 14 48 47,950 10 3½ 4	24 42 10 48 24,450 8 4 5	24 42 12 48 35,225 9 4 5	24 42 14 48 47,050 10 4 5	30 52 12 48 35,225 9 5\frac{1}{2}	30 52 14 48 47,95 10 5 6
40 lbs. pre	ssure pe	an be raised with r square inch in Non-cordensing	360	230	160	118	456	292	202	149	397	276	202	518	360	264	562	413
Ditto d	litto litto	ditto—with Holman's Condenser ditto—with Air-pump Condenser		307 384	213 267	15 1 191	603 750	389 486	269 337	198 248	528 660	363 450	269 337	691 864	480 600	352 440	750 937	689

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Any number of these Engines can be placed side by side, to work in conjunction or separately as desired, thereby multiplying the work of one Pump to any extent.

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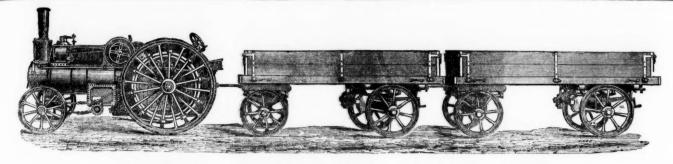
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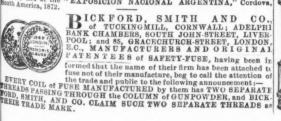
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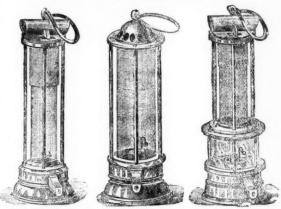
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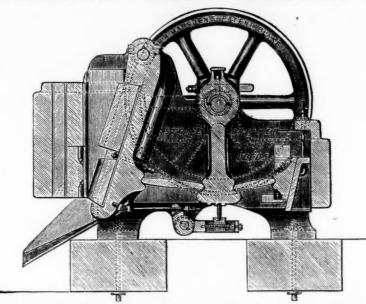
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